


FAIRLIGHT VIDEO ENTERTAINER

USER MANUAL

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INSTRUCTIONS TO THE USER CONCERNING FCC RULES

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance to the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a class B computing device in accordance with the specifications in subpart J of part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- * Reorient the receiving antenna
- * Relocate the computer with respect to the receiver
- * Move the computer away from the receiver
- * Plug the computer into a different outlet so that computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications helpful:

"How to identify and resolve Radio-TV Interference Problems"

This booklet is available from the U.S. Government Printing Office
Washington D.C. 20402, Stock No. 004-000-00345-4

WARNING

This equipment has been certified to comply with the limits for a class B computing device, pursuant to Subpart J of FCC Rules. Only peripherals (computer input/output devices, terminals, printers etc.) certified to comply with the class B limits may be attached to this device. It is suggested that the user use only shielded and grounded cables. Operation with non-certified peripherals is likely to result in interference to radio and T.V. reception.

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I N T R O D U C T I O N

The FAIRLIGHT VIDEO ENTERTAINER has been designed to provide an easy-to-use source of original video images and effects to be combined with live or taped video in your venue.

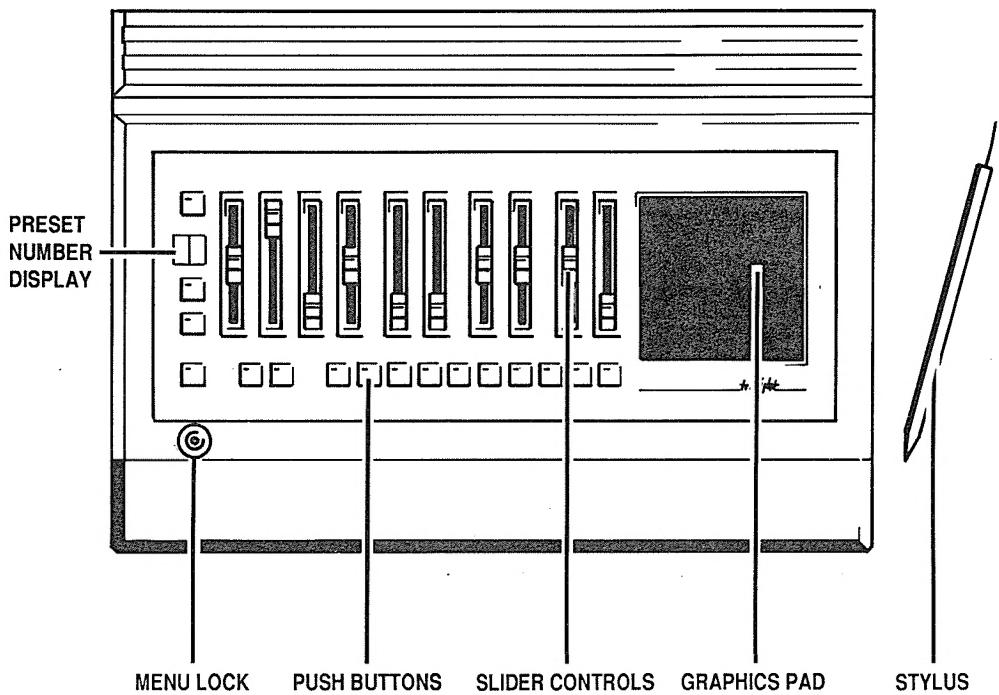
The ENTERTAINER can apply a huge range of digital video effects to video from camera or tape, and can also be used to "paint" video images which can be displayed alone or combined with your other video sources - as backgrounds or foregrounds, titles, textured patterns, or simply to retouch a frame of frozen video.

You can access all these effects from the ENTERTAINER's integrated ergonomic Control Panel. Many of them are pre-programmed into PRESETS which can be called up by a couple of button pushes and then modified and manipulated by pressing the buttons and moving the faders. Some SEQUENCES of events have also been programmed into the system so that the ENTERTAINER can continuously reproduce a series of effects and images, using whatever video material is fed into it.

Other choices of effects are available in a number of MENUS which appear on screen and offer a wide choice of other functions such as Titling, as well as the possibility of creating your own Presets and Sequences. You can produce many and varied effects with the Presets and never use the Menus, but if you do choose to utilise them, they will offer you almost limitless opportunities to apply your own creativity to your video images.

In the first part of this manual, **Getting Started**, we explain the general concept of the FAIRLIGHT VIDEO ENTER-TAINER, provide instructions on connecting your ENTER-TAINER and show you how to use the Control Panel and the Presets.

THE FAIRLIGHT VIDEO ENTERTAINER



H O W I T W O R K S

The FAIRLIGHT VIDEO ENTERTAINER is capable of generating a wide range of still or moving visual effects from simple painted images to complex combinations of drawn images with video from tape or camera.

These are made possible by combining different types of video from within the ENTERTAINER, using its unique computerised system. There are many possible combinations and you can choose what images you wish to combine and how they will interact in several different ways.

The possible types of video are:

LIVE VIDEO

LIVE VIDEO can come from a camera or video tape connected to the Video input of the ENTERTAINER. Video images from these sources can be altered in themselves, producing effects such as mirrors and colourising, or they may be combined with images generated by the ENTERTAINER.

FROZEN VIDEO

A single frame of video from your video source can be "frozen" and stored in the ENTERTAINER. This image can be drawn on, retouched and combined with the incoming video.

PAINTED IMAGES

You can "paint" images on the screen using the graphics pad. Choices include titles, drawn shapes or patterns, or using "frozen" video images stored in the machine.

STENCIL

Combining the different types of video in one image is made possible by the STENCIL feature of the ENTERTAINER.

The STENCIL defines two separate areas on the screen: the region where the stencil is On and the region where it is Off. This division allows effects to appear in one region without affecting the rest of the screen.

The STENCIL is used to display two different types of picture on the screen at the same time: one in the On area and one in the Off area. A stencil can be any drawn shape, or a pre-defined geometric shape, or a pattern (texture). The stencil itself is not displayed on the screen, but it determines where the two types of picture appear.

There are three buttons on the Control Panel which are used with the Stencil. The USE STENCIL button activates the Stencil. With some Presets you will see that this button lights up which indicates that the Stencil is used with that Preset. When the DRAW STENCIL button is on (i.e. its light is on), the Stencil area is highlighted on the screen so you can see what the division of the screen is. If you press the INVERT STENCIL button, then the On and the Off areas will swap.

KEYING

Another way of combining different sources of video is by using the KEY feature of the ENTERTAINER. A KEY is like a 'live' stencil which is defined by the different coloured areas in the incoming video.

There are two types of Key which you can use with the Entertainer. Most commonly, you will want to use the Luminance key. This divides the screen into two areas according to the amount of light in the incoming video. If, for example, you have a camera on people dancing in a fairly dark room, the light areas (i.e. the dancers) will be defined as a stencil shape. You can then either show some other type of video behind them or treat the background with an effect which will not be applied to the foreground.

The other type of Key is Chromakey (blue). To use this, you need to have a room with a blue wall. If the incoming video is of a person dancing in front of the blue wall then the chromakey stencil can be used to replace the blue wall areas of the picture with another image.

The advantage of a Key type of stencil is that it comes continuously from the tape or camera input and moves with the action in the video. The size, position and shape of the Key stencil are determined entirely from the incoming video signal.

The **STENCIL** and **KEY** features can be used simultaneously to generate a foreground as well as a background to live video; this effect is used in Preset 94.

PRESETS

The simplest way of controlling the ENTERTAINER, and of selecting the combination of types of video that you need, is by using the system's PRESETS.

A Preset is something like a 'snapshot' of the ENTERTAINER at a particular instant. A Preset contains information about the position of the ten SLIDER controls and the sixteen PUSH BUTTONS on the Control Panel, as well as other information within the system. There are 100 Presets (00 to 99), each containing control information corresponding to the descriptions in the Presets section of this manual. Each of these 100 conditions can be reproduced by you simply by pressing the Preset button and selecting the appropriate Preset number from the numbered buttons along the bottom of the Control Panel.

A Preset does not contain any pictorial information. The resultant screen image will be the same process used to generate the photos in this manual, but applied to whatever video image is presented to the ENTERTAINER's inputs.

The Presets allow fast and accurate control of video effects in demanding situations.

Although the number of Presets is limited to 100, each preset can be modified or completely changed using the sliders and buttons on the Control Panel. These will change colours, zoom or pan the picture, and create numerous other variations.

You can even use the MENUS to select further changes and store and recall your changes as a new Preset. The ENTERTAINER will retain your Preset until instructed otherwise. You can re-create the effect simply by selecting the Preset number under which you stored it.

The FAIRLIGHT VIDEO ENTERTAINER will even retain your effect if you turn the power off. So you can create an effect, store it as a Preset, and come back a month later - it will still be there. The original Presets can also be regained at any time.

SEQUENCES

The first 10 Presets in the ENTERTAINER are Sequence Presets. A Sequence consists of a series of Presets and Control Panel moves which have been stored in computer memory.

You activate a sequence in the same way as selecting any Preset, using the numbers 00 - 09. Like Presets, Sequences do not store moving video images, but will reenact the same effects each time you use them on whatever video you are inputting to the ENTERTAINER.

Sequences can also be amended and new sequences created using the MENUS.

MENUS

The MENUS in the ENTERTAINER are screen displays which offer, in words and symbols, further choices for operation of the system.

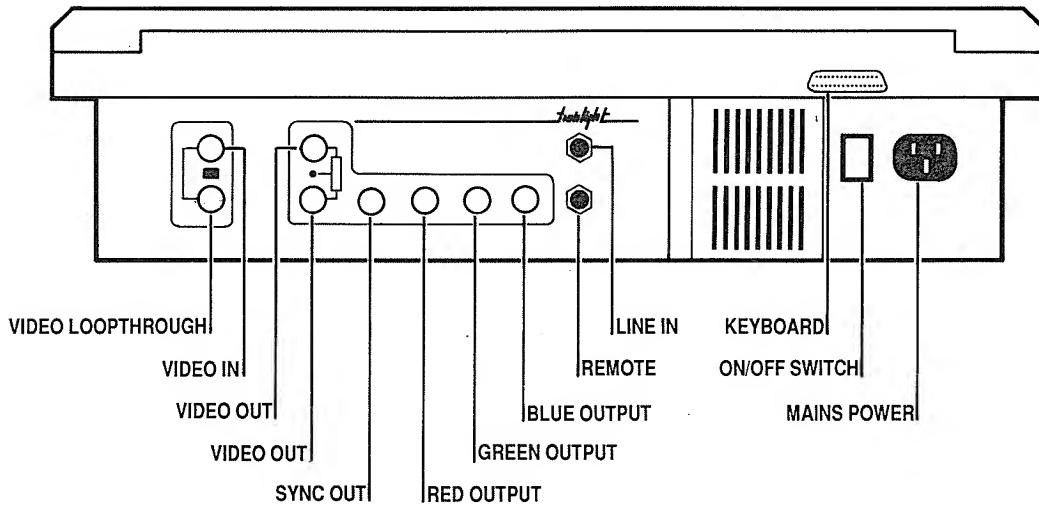
The ENTERTAINER is fitted with a MENU LOCK which disables the Menu functions. This is to ensure that stored Presets and Sequences cannot be changed or deleted by unauthorised personnel, and also to prevent the accidental appearance of Menus on screen during live use of the ENTERTAINER. When the Menus are unlocked, they are accessed by pressing the MENU button, and appear as white lettering on a blue background.

The MENUS offer choices such as a wide array of Brush shapes and Textures, Titling, more Video Effects, access to the Sequencer, and System controls such as Save and Recall of Presets.

This section tells you how to set the ENTERTAINER up with your own equipment, and help you get it working. The first section takes you through setting up the machine

CONNECTING THE ENTERTAINER

Ideally, this should be done by someone who has some technical knowledge of video systems. You can call upon your Fairlight supplier to help you if necessary.



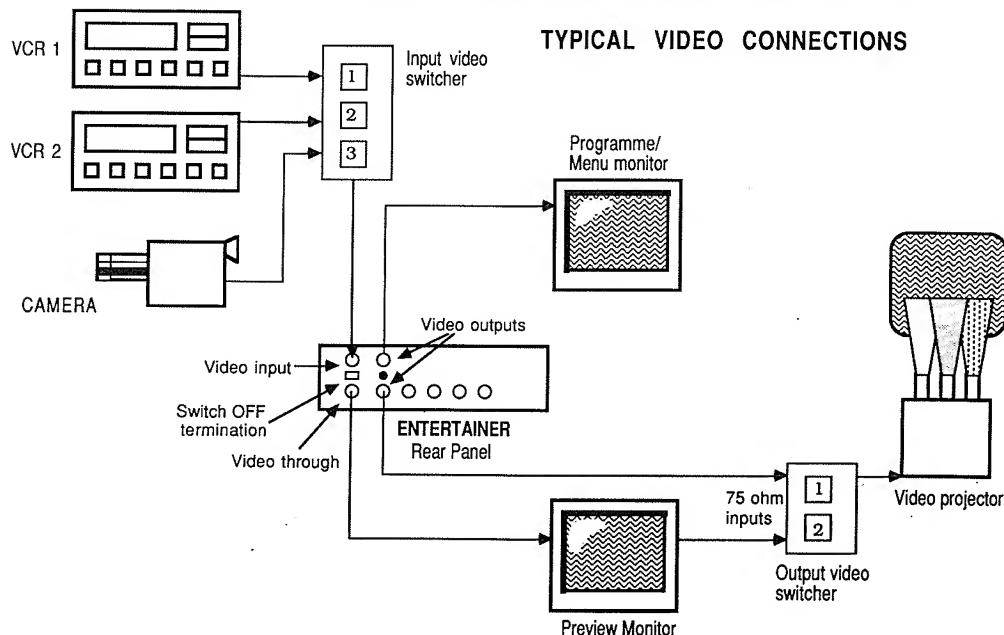
WARNING !!!

Make sure the ENTERTAINER is set for the same mains voltage as your supply. Check the label on the back of the unit; the ENTERTAINER will operate within 10% of the voltage specified. Plugging the ENTERTAINER into the wrong voltage can seriously damage the unit.

CONFIGURATIONS

If the MENU functions are used, the Menu display will appear at the output of the ENTERTAINER. If you do not wish the audience to see the Menus, use an external video switcher to switch the video projector or monitors OFF or directly to video source before using the Menus. A monitor connected permanently to the ENTERTAINER's second video output allows the operator to work with the Menus (see PREVIEW in set-up instructions below).

A similar video switcher can be installed to select one of a number of video sources as the input for the ENTERTAINER. Using the Transition Presets, and operating the switcher at the appropriate moment, the ENTERTAINER will provide smooth and attractive transitions between video sources.



CONNECTIONS

POWER:

Plug the mains lead into the MAINS POWER socket at the rear of the Compact. Plug the other end into the wall socket, but don't turn the ENTERTAINER on yet.

INPUT:

Use a BNC lead to plug the output of your source into the VIDEO INPUT socket on the rear of the ENTERTAINER. Make sure the termination switch located beneath the input socket is set to "75" (ohms), unless you are taking a loop-through line out of the ENTERTAINER (see PREVIEW below.)

OUTPUT:

There are two composite outputs and one set of RGB outputs, so you could connect up to three monitors or projectors simultaneously (providing one has a set of RGB inputs).

Use a BNC lead from the VIDEO output of the ENTERTAINER to the Video Input of your monitor/projector.

If you have an RGB monitor, you will need four BNC leads. Connect these to the outputs marked RED, GREEN, BLUE and SYNC. Connect to the RGB Inputs of the monitor.

OPTIONAL CONNECTIONS:

PREVIEW:

If you want to view your video source unaffected by the ENTERTAINER, you can connect an additional monitor for this purpose.

Connect a BNC lead to the LOOPTHROUGH socket located below the VIDEO INPUT socket on the back panel and connect it to the Video Input of the monitor. Turn the Termination switch located beneath the input socket to the "OFF" position.

AUDIO INPUT:

In some ENTERTAINER Presets, an audio input is used to control effects such as strobe rates or colours. To make good use of these Presets, you will need a line level (-10dBm) mono audio source. To use a stereo source, use a combining lead (Y-lead) or similar.

Plug your audio source into the LINE IN socket on the rear panel.

FOOTSWITCH:

The Footswitch allows you to trigger Presets when your hands are full.

Plug the supplied footswitch into the REMOTE socket on the rear panel of the ENTERTAINER.

TURNING ON THE ENTERTAINER

Now your ENTERTAINER should be ready to run. Take the following steps to check that everything is working.

- A.Turn the power ON. The words "Fairlight Video Entertainer" will appear on the screen of your output monitor.
- B.Turn on your video source (camera or VCR) and begin sending video to the ENTERTAINER. The video image should appear on the screen behind the logo.
- C.To clear the logo, press the PRESET button on the front panel, followed by 99 (which you enter by pressing the "9" button at the bottom right of the front panel twice).
- D.Use preset 98 to adjust the audio input if you are using one.
 1. Select preset 98 by pressing the PRESET button followed by 9 and 8, then press STOP. A display will appear which has four bar graph meters for bass, middle, treble and envelope.
 2. Make sure music is being played into the audio input. The meters will respond by stretching up and down the screen. The aim is to equalise the bar graph heights so that they are all about half way up the screen.
 3. To adjust the sensitivity to bass levels, use the HUE slider on the front panel. For middle frequencies, use the SATURATION slider. For treble, use the VALUE slider.
 4. The COLOUR DEPTH slider is used to adjust the overall sensitivity.

On presets whose colour is controlled by music, the HUE slider adjusts the red component of the picture, the SATURATION slider adjusts the green, the VALUE slider adjusts the blue and the COLOUR DEPTH slider adjusts the white.

The LED's on the front panel sliders will pulse in response to the music.

E. Use preset 95 to adjust the Key levels.

1. Select preset 95 by pressing PRESET followed by 9 and 5. Then press STOP. Live video will appear on the screen.
2. Put the point of the Stylus on the graphics pad. Move it up and down the graphics pad vertically as though you were using a slider. You will notice that the picture on the screen will have some areas highlighted.
3. The further up the pad you move, the greater will be the area of the picture which is highlighted. These highlighted areas are where the live video is going to come through.
4. Vertical movement on the pad is a coarse adjustment while horizontal movement is a fine adjustment. When you have the correct balance of keyed areas in the picture, lift the STYLUS off the pad. The key level is now set for all the presets which use it, and will remain set even if you turn off the ENTERTAINER, until you wish to adjust it again.

USING THE FAIRLIGHT VIDEO ENTERTAINER

Your first line of operating controls for the FAIRLIGHT VIDEO ENTERTAINER will always be the PRESETS. However, as explained earlier, further immediate and intuitive control of colour, screen movement and timing is possible using the Control Panel controls, so it is important to understand these as well as how to trigger a Preset. This section of the manual explains how to start the Presets and Sequences, and the use of the Control Panel. When you have experimented with these you will be able to use the ENTERTAINER in a working situation.

The other control system within the ENTERTAINER, which advanced users will want to understand, is the MENUS. Modification of Presets and Sequences and operation of the system using Menus is explained in the final section of this manual.

SELECTING A PRESET

The Presets in the Entertainer are arranged in groups of similar effects so that you can easily find the one you want.

Presets 00 - 09 are the **Sequence** Presets. These contain a sequence of events which produce either a useful effect or a series of effects which can be used to play on its own for a while.

Presets 10 - 39 are **Transition** Presets. These are designed to allow the operator to switch sources to the ENTERTAINER without loss of picture.

Presets 40 - 88 are Presets which singly or in pairs produce **Video Effects** on live video.

Presets 89 - 94 are **Painting** Presets, allowing you to draw shapes and put titles on the screen.

Presets 95 -98 are **Technical Set-up** Presets.

Preset 99 is the **Safety** Preset. It is the only Preset which fires immediately you select it, and it shows only untreated video on the screen. This is useful when you want immediately to clear the screen of other effects and images.

The Entertainer lets you select Presets without displaying the effect straight away. This is called **cueing a Preset** before you **fire** it. This way you don't accidentally display the wrong Preset, and you can fire the Preset in time with music, for example. You can also select a Preset in advance and then use the footswitch to fire it.

To cue a Preset, press the PRESET button on the under the LED display on the left of the Control Panel. Then select the number of the Preset you want by pressing the numbered buttons along the bottom of the Panel. The LED display will flash, showing the number of the Preset now cued.

If you cued the wrong effect, or made a mistake in selecting the number, just press PRESET again and enter the correct Preset number before you fire it.

To fire a cued Preset, press the STOP button at the bottom left hand corner of the Panel, or hit the footswitch once.

To fire the same Preset again, press the PRESET button followed by the STOP button.

To step through the Presets consecutively, push PRESET followed by > (the DRAW LOCK button). This will cue the next number. Push STOP to fire the Preset. Repeat this to get the next Preset and so on. Alternatively, you can use the footswitch to step through the Presets, hitting it once to advance to the next Preset, and once to fire it.

Push PRESET followed by < (the DRAW button) to cue the previous numbered Preset. Push STOP to fire the Preset. Repeat this to get the next Preset and so on.

Note: You cannot step backwards through the Presets past 10 because then you would be into the area reserved for sequences. You cannot step forwards past 94 because these are the machine set up Presets. When you reach Preset 94, the machine automatically returns to Preset 10 and vice versa.

Pressing the PRESET button twice clears the cued Preset and displays the number of the currently active Preset.

To stop a Preset half way through what it is doing hit the STOP button. This will stop the process of setting up the Preset if it is a wipe, for example, but if you want the effect to stop, you should select Preset 99 which will show untreated video on the screen.

SELECTING A SEQUENCE

Presets 00 to 09 are the **Preset Sequences**. You can select each sequence as you would any other Preset:

1. Press the PRESET button. It will light up.
2. Select the number of the Sequence you want to play by pressing the numbered buttons 00 to 09. This will cue the sequence ready for playing. Notice that a single digit appears on the LED display indicating that a sequence is cued.
- 3 .Press the STOP button. The front panel beeps, the Sequence starts playing and the LEDs in the sliders begin to chase across the front panel.
4. Press STOP button again to stop the Sequence.

Another way to cue the sequence is to press the PRESET button followed by a single number from 0 to 9, then press STOP to cue it. To play the sequence, press the STOP button again, or use the footswitch.

THE CONTROL PANEL

The Control Panel has 10 Slider Controls, 16 Push-buttons and the Graphics Pad.

SLIDER CONTROLS

The four sliders at the left of the control panel are used to control Colour for painting and for colourisation of live images.

HUE:

This selects the actual colour from the spectrum.

The slider is marked: RED YELLOW GREEN CYAN BLUE MAGENTA RED, giving a full colour circle. It is a continuous scale, so positioning the slider between, say, RED and YELLOW will yield ORANGE.

SATURATION:

Adjusts the amount of white added to the colour. For instance, high saturation red is a bright red, decreasing saturation goes through various shades of pink, until at minimum saturation (the slider at the bottom) the result is white.

VALUE:

Adjusts the amount of black added to the colour. Full brightness occurs when the slider is at the top of its travel, and moving the control down will darken the colour, until at the bottom it will be black.

COLOUR DEPTH:

Controls the amount of Colourizing. If you are using Colourize, the slider must be off the centre or there will be no visible effect. Move the slider up for positive colourization, down for negative.

Note: Presets recall control information from memory and ignore the current position of the sliders. So, for example, a colourize Preset will not be affected by the Colour sliders unless you move them after you have fired the Preset.

The next two sliders control the rate at which events occur in the ENTERTAINER.

RATE ONE:

This controls the rate of change of random colour and colourizing functions. Normal position is at the top. Moving it down slows the rate of colour change.

RATE TWO:

This control determines the rate of ZOOM and STRETCH functions. Normal position is at the top, where ZOOM and STRETCH move as fast as you can move the sliders. The rate slows as you move the slider down.

This slider also controls the speed of image strobing.

The four right-hand sliders control the movement of graphics and frozen images on the screen.

HORIZONTAL PAN:

Moves image horizontally. Normal position (the image is still) is in the centre 'dead spot'. Up moves the image to the left, and down, to the right. The further the slider moves from the centre point, the faster the image pans across the screen.

VERTICAL PAN:

Moves image vertically. This works like the HORIZONTAL PAN slider, except that moving the control upwards causes the images to pan towards the top of the screen, moving it down causes a downward movement.

STRETCH:

On a still image this slider will stretch the picture, with a normal image occurring when the slider is at centre. Up from centre gives a vertical stretch. Down from centre gives a horizontal stretch. On a live image, this control will control the Pixelation effect. Speed of stretch is controlled by the RATE 2 slider.

ZOOM:

On a still image this control gives a close-up effect. On a live image it will produce a Pixelation (mosaic) effect. The normal position for this control is at the bottom of its travel.

PUSH BUTTONS

The push-buttons allow immediate control of a number of functions. Each button has a light which glows when the button is ON and its function is active. When you select a Preset, you will see that some buttons light up, indicating that their functions are active in that Preset.

The buttons on the left of the Control Panel are:

FREEZE:

When the button light is on, the treated part of the image will be frozen. The exact effect will depend upon the current Preset. (see Preset descriptions).

PRESET:

Used for selecting Presets in conjunction with the buttons numbered 0 to 9.

MENU:

Used to enter the Menus (see MENU section for full description). When the MENU LOCK is on, this button is disabled.

STOP:

This button has several functions in the ENTERTAINER.

- Firing a cued Preset.
- Stopping a sequence.
- Stopping a process in a Preset such as a Wipe or Transition.
- Exiting from a Menu.

The ten buttons underneath the sliders have numbers 0 to 9 as well as names. These numbers are used in selecting Presets. They also have other functions used by some Presets and Menus (see following sections).

THE GRAPHICS PAD

The GRAPHICS PAD is a touch sensitive pad which detects the position of the stylus on its surface. The Graphics Pad allows you to draw on the screen, or to position titles, make stencil shapes and adjust audio and keying levels as we have already seen.

If you are drawing on screen, for example using Preset 89, a small moving shape called the CURSOR will appear on screen, in a position corresponding to the stylus' position on the GRAPHICS PAD. The cursor will be in the Colour with which you are drawing. You can select the right colour by moving the COLOUR SLIDERS with the DRAW LOCK button turned OFF. Then position the stylus on the GRAPHICS PAD, make sure both the DRAW and DRAW LOCK button are on, and move the stylus on the pad to draw.

Drawing takes place when the stylus is held firmly on the GRAPHICS PAD. When you lift pressure the line or brush stroke you are drawing will cease. Apply firm pressure at all times when using the Graphics Pad to prevent errors.

Note: Do not use a pen or ballpoint pen with ink on the GRAPHICS PAD - indelible staining may occur. Also, do not use any object with a sharp point: the pad surface may be scratched and damaged. If you do not use the supplied stylus, your fingernail is probably the next best thing.

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Presets are the pre-programmed effects which can be fired from the front panel or with the footswitch. This section describes each preset.

IMPORTANT:

READ THESE NOTES BEFORE USING PRESETS

TRANSITION PRESETS 10 - 39

The transition presets must be used as pairs triggered one after the other. They are interesting if used during the screening of some live video, but are especially designed to allow the operator to switch between video input sources to the ENTERTAINER without the output picture dropping out or tearing. In video discos, for example, music clips can be shown continuously on alternate VCRs without the house picture ever having to go to black.

To switch video sources cleanly, switch just after you fire the second preset in the pair, while the screen image is frozen. If your video sources are not locked together (genlock), the picture may jump slightly, but will not break up or tear.

ZOOM, PAN and STRETCH sliders work well with transitions.

KEY PRESETS

The luminance key separates the bright regions of the screen from the dark regions so that different effects can be applied to each. When a luminance key preset is activated, the graphics pad can be used to control the key level if you wish to ride the key adjustment while the video is playing to maintain good keying. Moving the stylus up and down is a coarse adjustment. Side to side is a fine adjustment. To set the key level, press STOP.

The key level is copied to all the other presets which use a key. To set a key level during set-up, use Preset 95.

COLOURIZED PRESETS

Presets which use colourizing are in groups where each preset in the group produces the same effects, but each is colourized differently. There are six types of colourize: Opaque, Translucent, Monochrome, Spectrum, Contour and Solar.

The first colourized preset in each group is Opaque, with Random Fix controls. This means that the ENTERTAINER will generate constantly changing colourizations until you press the COLOURIZE button, when it will "fix" the current colourization. In these Presets, the Colour sliders have no effect because the colours are randomly generated by the ENTERTAINER.

Try the Presets to see what each colourize type look like. In these presets, the COLOURIZE button is used to switch colourization on and off. When colourize is active, the HUE, SATURATION, VALUE and COLOUR DEPTH sliders can be used to change the colours.

The ZOOM and STRETCH sliders are effective with these presets and the FREEZE button can also be used to good effect.

MUSIC CONTROLLED STROBE

The strobe rate responds to peaks in the bass of the audio input. RATE 2 controls sensitivity and should be carefully adjusted for best results. The optimum setting will depend on the strength of the bass beat in the music playing.

The front panel slider LEDs act as a pseudo VU meter pulsing from the centre, outward in response to increasing loudness.

MUSIC CONTROLLED COLOURIZE

Colour is derived from audio input as a mixture of bass (RED), middle (GREEN) and treble (BLUE) frequencies. Adjust audio sensitivity using the Colour sliders; HUE for Bass, SATURATION for Middle, VALUE for Treble and COLOUR DEPTH for overall sensitivity (WHITE).

The front panel slider LEDs act as a pseudo VU meter pulsing from the centre, outward in response to increasing loudness.

COLOUR CRAWL

Colour crawl in all Presets uses the colours set for crawl at the time of recording. If you copy or reset (see MENUS section) any Presets using crawl, they will change to the crawl colours you are using at the time.

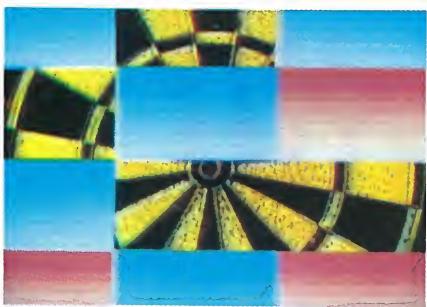
ORDER OF SELECTION

In some presets, frozen or painted images or stencils are not erased when the preset is selected, so images might be left from previous preset selections. This allows images from one preset to be carried forward to the next. If you do not want this, select Preset 99 first.



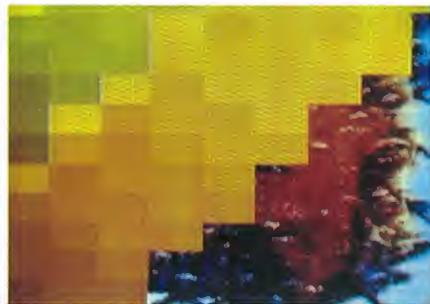
00 BARS 1

Coloured bars are drawn in the middle of the screen over live video, zoom out to fill the screen, then start to disintegrate to live video, but slide off the top of the screen before the disintegrate is completed.



01 CHECKERS

Red and blue checkers appear in the middle of the screen over live video, zoom out, then disappear one by one to reveal live video.



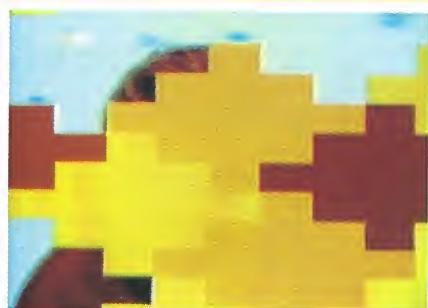
02 DIAGONAL

Brown and gold colour crawl squares wipe diagonally across the screen, then disappear back again into the top left hand corner.



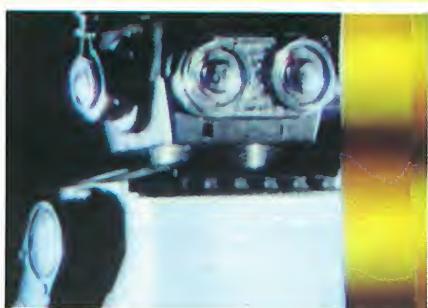
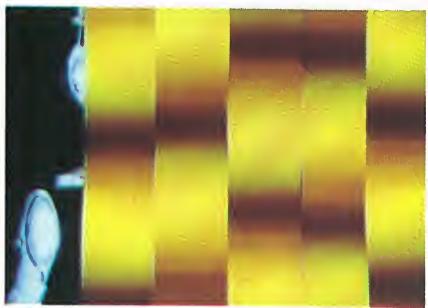
03 SPIRAL

A colour crawl spiral winds in towards the centre of the screen and then unwinds again to reveal live video.



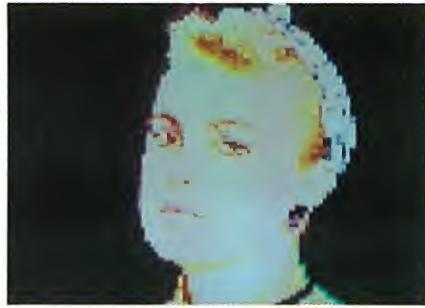
04 DIAMOND

Colour crawl diamonds fill the screen, then disappear to reveal live video.



05 SNAKE

Colour crawl columns wind up and down the screen filling it from left to right, then slide off to the right, revealing live video.



06 BARS 2

Pixelates the incoming video, freezes it and zooms in, colourizes, then horizontal stripes wipe across the frozen image from top to bottom to reveal live video.



07 DIAGONAL 2

Pixelates the video images, freezes and zooms it, colourizes and then wipes off with diagonal strokes from the top left corner.

08 & 09

MEDLEY 1 and MEDLEY 2

Preset Sequences 8 and 9 are “Medleys”, that is, they are a series of Presets sequenced together which can be used with any video input to produce continuously varied effects, such as colourisation, pixelation, textured shattering between live and frozen video and so on. At the end of a medley, the current effect will remain on the screen until you change it.

Note: both Medleys use Luminance keyed presets, so you should set the key levels in advance or check and adjust them while the sequence is playing.

Remember that you cannot go forward from Preset 09 to Preset 10 using the footswitch or pressing PRESET followed by the DRAW LOCK > button. Either of these actions will take you back to Preset 00.

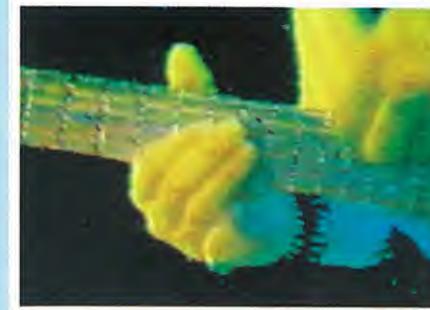
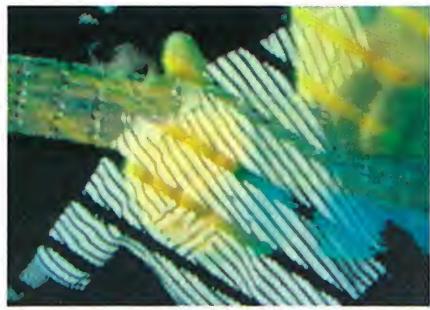
T R A N S I T I O N P R E S E T S 1 0 - 3 9



10-11

ZOOM OUT AND RANDOM DISINTEGRATE TRANSITION

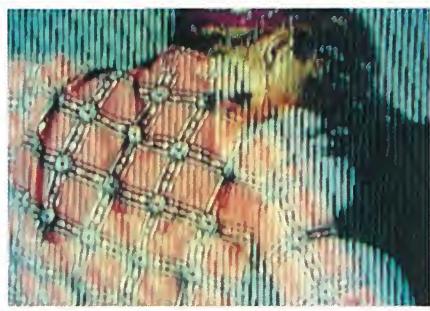
Preset 10 sets up the Entertainer ready to freeze when preset 11 is fired, then zoom out and randomly “disintegrate” to live video beneath.



12-13

DIAGONAL DISINTEGRATE TRANSITION (BOTTOM LEFT TO TOP RIGHT)

Preset 12 sets up the Entertainer ready to freeze and diagonally disintegrate revealing live video when preset 13 is fired.



14-15

VERTICAL DISINTEGRATE TRANSITION

Preset 14 sets up the Entertainer ready to freeze and vertically disintegrate when preset 15 is fired, revealing live video beneath.



16-17

DIAGONAL DISINTEGRATE TRANSITION (BOTTOM RIGHT TO TOP LEFT)

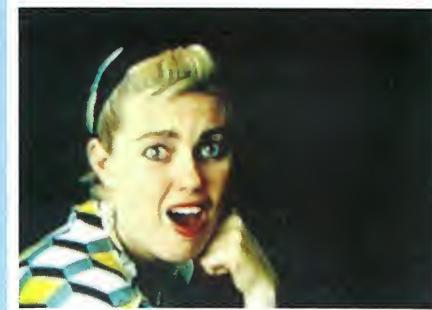
Preset 16 sets up the Entertainer ready to freeze and diagonally disintegrate to live video when preset 17 is fired, revealing live video beneath.



18-19

PAISLEY DISINTEGRATE TRANSITION

Preset 18 sets up the Entertainer ready to freeze and do a randomized paisley textured disintegrate when preset 19 is fired, revealing live video beneath.



20-21

VERTICALLY-STRETCHED DISINTEGRATE TRANSITION

Preset 20 sets up the Entertainer ready to freeze, vertically stretch the frozen image and then disintegrate to live video when preset 21 is fired.



22-23

HORIZONTALLY-STRETCHED DISINTEGRATE TRANSITION

Preset 22 sets up the Entertainer ready to freeze, horizontally stretch the frozen image and then disintegrate to live video when preset 23 is fired.



24-25

FREEZOOM DIAGONAL WIPE TRANSITION (PICTURED)

Preset 24 sets up for Preset 25 which freezes, zooms, then wipes diagonally, revealing live video beneath.

26-27

FREEZOOM TOP TO BOTTOM WIPE TRANSITION

Preset 26 sets up for Preset 27 which freezes, zooms out, then wipes from top to bottom, revealing live video beneath.

28-29

FREEZOOM LEFT TO RIGHT WIPE TRANSITION

Preset 28 sets up for Preset 29 which freezes, zooms and wipes from left to right, revealing live video beneath.

30-31

FREEZOOM SCRIBBLE REVEAL TRANSITION

Preset 30 sets up for Preset 31 which freezes and zooms. You can then reveal the live video beneath by scribbling on the graphics pad with the stylus.



32-33

FROZEN MOSAIC SHRINK REVEAL TRANSITION - CENTRED (PICTURED)

Preset 32 pixelates the image. Preset 33 freezes then shrinks to the centre of the screen, revealing live video around it. Finally, the shrunken, frozen image is wiped from top to bottom.

In preset 32 you can freeze the pixelated picture manually by pressing FREEZE.

34-35

FROZEN MOSAIC SHRINK REVEAL TRANSITION - TOP CENTRE

Preset 34 pixelates the image. Preset 35 freezes and shrinks the image until it disappears at the top of the screen, revealing live video.

In preset 34 you can freeze the pixelated picture manually by pressing FREEZE.

36-37

FROZEN MOSAIC SHRINK REVEAL TRANSITION - TOP RIGHT CORNER

Preset 36 pixelates the image. Preset 37 freezes then shrinks the image and slides it off the top right corner, revealing live video.

In preset 36 you can freeze the pixelated picture manually by pressing FREEZE

38-39

FROZEN MOSAIC SHRINK REVEAL TRANSITION - CENTRE LEFT

Preset 38 pixelates the image. Preset 39 freezes it then shrinks and slides off to the left, revealing live video around it.

In preset 38 you can freeze the pixelated picture manually by pressing FREEZE.

**40****41****42****40, 41 & 42 COLOURIZED VIDEO STROBE**

Strobed colourized video. Preset 40 is random Opaque colourize type with optional Fix control. The RATE 2 slider adjusts the strobe rate.

43 & 44**MUSIC CONTROLLED COLOURIZED VIDEO STROBE**

Colourized video strobos with the strobe controlled by the music input. Preset 43 is random Opaque colourize type with optional Fix control.

**45****VERTICAL REVERSE**

Turns the image upside down on the screen.
Press FREEZE for a still reversed image. INVERT STENCIL returns the image to the right way up.
COLOURIZE produces a negative Solar colourize type.



46

VERTICAL REVERSE WITH NEGATIVE COLOURISATION

The live image is keyed over an upside down negative version of itself.

FREEZE freezes the reversed colourized image. Colour sliders change the colourization. INVERT STENCIL swaps the keyed areas.

If you are stepping through the Presets in numerical order, use this Preset to adjust the key levels for Presets 48 and 49 .



47

QUAD MIRRORS

A kaleidoscope effect where the live image is mirrored both horizontally and vertically.

HORIZONTAL and VERTICAL PAN sliders position the axes of reflection on the screen. Use ZOOM and STRETCH sliders for abstract pixelated effects.

Note: It is not possible to adjust the key levels during display Tunnel presets (Presets 48 and 49) If you are stepping through presets in numerical order, adjust the key levels in preset 46. To set a key level during set-up, use Preset 95.



48

KEY OVER MUSIC COLOUR TUNNEL

A “Colour tunnel” emanates from centre screen, behind keyed live image. Audio input controls the colours of the tunnel.

RATE 2 controls the speed of the colour tunnel. At the top of its travel, it produces the fastest outwards flow of colours. At the bottom it produces the fastest inwards flow of colours.

ZOOM and STRETCH give different impressions.

INVERT STENCIL makes Colour tunnel come through chroma keyed image. Press USE STENCIL then INVERT STENCIL to see tunnel only (without keyed video).



49

KEY OVER MUSIC CONTROLLED STRETCHED COLOUR TUNNEL

Same as 48 except that the Tunnel has been stretched to produce horizontal coloured lines across the screen.



50

SHATTER WITH TEXTURE MASK

A textured stencil wipes down the screen. The picture strobes. Frozen image showing in the texture highlights movement on the screen (Shatter effect).

Shatter rate is controlled by RATE 2.

Use COLOURIZE to turn on random Opaque colourize type. Press again to ‘fix’ colourize.

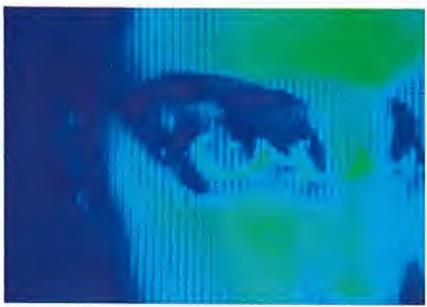


51 & 52

COLOURIZED SHATTER WITH TEXTURE MASK

Same as Preset 50 except that the textured frozen image is also colourized. Each Preset uses a different texture and wipe direction as well as a different colourization

RATE 2 slider controls the shatter rate.



53 & 54

KEYED IMAGE OVER PIXELATED, COLOURIZED BACKGROUND

Light areas are pixelated and colourised. Other areas show solid black. Preset 53 uses random Opaque colourize with optional Fix controls.

Press INVERT STENCIL to reverse black and pixelated areas.

55

KEYED VIDEO OVER COLOURIZED BACKGROUND

Similar to Preset 53 and 54 except that dark areas show untreated video while the background is colourized. Colourize type is Spectrum.

Press INVERT STENCIL to reverse effect.



56-57

SHATTER STROBE USING FREEHAND DRAWN STENCIL

This pair must be used together.

Preset 56 lets you draw freehand using the graphics pad, to be used by preset 57 as the shatter strobe stencil. To erase the STENCIL, press WIPE STENCIL. Preset 56 can be used as a simple strobe preset by adjusting the RATE 2 slider. Press COLOURIZE to turn on colourization (Contour type).

Preset 57 lets you fill the shape you have drawn in 56. First make sure that the lines you have drawn using Preset 56 join up to fully enclose an area of the screen. If they are not, the "fill" will spill over and the whole screen will become a stencil, losing the effect.

Then, in Preset 57, put the stylus to the pad. The stencil will be highlighted and a cursor saying **fill ➔** will appear on the screen.

Move the cursor to a point inside the area of stencil that you wish to fill. Lift the stylus. The stencilled area will be filled in a few seconds. Repeat to fill other stencil areas.

RATE 2 adjusts the Shatter rate. COLOURIZE turns on colourization (Solar type). Adjust colours using colour sliders.





58-59

58-59 SHATTER STROBE USING DRAWN STENCIL

This pair must be used together, and work in the same way as Presets 56 and 57.

The Paint Method in **Preset 58** is Rubber Band, which allows you to draw a series of joined straight lines.

To draw, put stylus to pad and lift it at the position where you want the lines to start. When you put the stylus to the pad again, a thin line appears on the screen showing where the line will appear.

Move the stylus until the line is where you want it, then lift. Repeat

as often as you like to create a series of joined straight lines. Press STOP to finish the series of lines. Press COLOURIZE for Contour colourization. Press FREEZE for a still video image. Press WIPE STENCIL to erase your drawn lines and start again.

Preset 59 gives the shatter effect around the shapes drawn in Preset 58. You can add to the stencil, as in Preset 57, by filling any polygons you have drawn in Preset 58. RATE 2 adjusts the shatter rate. FREEZE stops the shatter update. Press COLOURIZE for Solar colourization.



60

SHATTER FLASH WITH OPTIONAL DRAWN STENCIL - FREEHAND

Alternates between colourized strobed image and live video.

Colourize type is random Opaque. RATE 2 adjusts the strobe rate.

Press COLOURIZE to 'fix' the current random colourize effect.

To draw a stencil shape to produce a shatter effect, put the stylus on the graphics pad and move it around. While the pen is on the pad the stencil is drawn, as soon as you lift it, drawing stops.

For accurate drawing, turn off the DRAW LOCK button while you

position the cursor exactly on the screen, then hold down DRAW while you move the stylus. Press INVERT STENCIL and draw over part of your shape to erase it. WIPE STENCIL clears your drawing.

**61****SHATTER FLASH - DOTS**

Same as 60 except the Paint Method is Dots and colourize type is Monochrome.

You can draw dots on the screen to provide a stencil for the shatter. Each time you put the stylus to the graphics pad a dot will appear on the screen. If you move the stylus across the pad a line of dots appear, getting further apart as you move the stylus faster.

RATE 2 controls the rate of strobing; set at a slow rate for a “snapshot” effect. Use Colour controls to change the colourize effect.

**62****SHATTER FLASH - RUBBER BAND**

Same as 60 except Paint Method is rubber band and colourize type is Spectrum.

To draw, put stylus to pad and lift it at the position where you want the lines to start. When you put the stylus to the pad again, a thin line appears on the screen showing where the line will appear. Move the stylus until you have the line where you want it, then lift. Repeat as often as you like to create a series of joined straight lines. Press STOP to finish the series of lines. The next time you put the stylus to the pad it will start a new set of lines.



63

MUSIC CONTROLLED COLOURIZED SHATTER FLASH - RECTANGLES

Same as 60 with music controlled Opaque colourization.

Paint Method is rectangles.

To draw rectangles, place the stylus on the graphics pad. A **rect** cursor will appear on the screen. Lift the stylus to position one corner of the rectangle. Put the stylus to the pad again. You will see a rectangle on the screen stretching and shrinking in response to the stylus' movement. Lift the stylus when the rectangle is the right shape. A rectangular stencil will appear.

Draw as many rectangles as you like. You can fill rectangles by going to preset 59.

To erase them and start again, press WIPE STENCIL



64

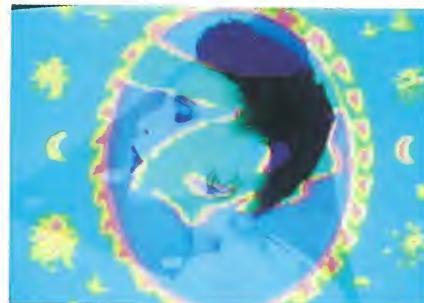
MUSIC CONTROLLED COLOURIZED SHATTER FLASH - RAYS

Same as 63 except Paint Method is Rays and colourize type is Solar.

To draw rays, place the stylus on the graphics pad. Position **rays** cursor to desired start point for rays and lift stylus. The next point you touch on the graphics pad will be joined by a line to the first point. By holding the stylus on the pad and moving it slowly a set of rays will be drawn, radiating from the selected starting point. Repeat to draw another set of rays.

**65**

65 - 67 COLOURIZED GHOSTED IMAGE Colourized ghost lags behind live video by time set by RATE 2. FREEZE freezes ghost. INVERT STENCIL displays frozen colourized image. Preset 65 uses random Opaque colourize type with optional Fix control.

66**67****68 & 69****GHOST WITH MUSIC CONTROLLED COLOURIZATION**

Same as 65-67 except colourization is controlled by music.

**70**

RANDOM COLOUR TRAIL A trail is built of overlapping coloured key shapes. RATE 1 controls rate of colour change. RATE 2 controls rate at which trail is added to. Press FREEZE to stop updating of trail.

71**MUSIC CONTROLLED COLOUR TRAIL**

Same as Preset 70 except Colour is controlled by music.



72

RANDOM COLOUR KEY SHATTER Key defines stencil for coloured shatter effect. RATE 1 controls rate of random colour change. Rate 2 slider controls the shatter rate.

73

MUSIC CONTROLLED COLOUR KEY SHATTER Same as 72 except colour is controlled by music. RATE 2 slider controls the shatter rate.



74

RANDOM BLACK AND WHITE KEY SHATTER

Same as Preset 72 except black and white.
RATE 1 controls rate of random contrast change.
RATE 2 slider controls the shatter rate.



75

SLAPSTICK

Image alternates between live image and still images grabbed from it, producing occasionally humorous effects.
Press FREEZE to grab live video image. RATE 2 controls rate of slapstick strobe.

**76****TRAIL**

Keyed image is continually and rapidly grabbed or frozen resulting in a trail of images. Works best with a fast moving live image.

Press FREEZE to stop the trail. Pressing it again starts the trail. ZOOM and STRETCH complement this Preset.

**77****HORIZONTAL SLOW TRAIL-STROBE**

Same as Preset 75, but grab rate is set by the RATE 2 slider. This results in a strobbed trail of images across the screen.

Press FREEZE to stop the trail. Pressing it again starts the trail. Use ZOOM and STRETCH.

**78****DIAGONAL FAST TRAIL-STROBE**

Same as Preset 76 except slide is maximum, spreading out frozen images. Each image is one field behind the actual live image.

Adjust HORIZONTAL and VERTICAL PAN sliders for sliding. Try ZOOMING up, pressing FREEZE, and ZOOMING back.



79 & 80

BOILING KEYED IMAGES

This pair of Presets works together to produce a very lively effect.

Preset 79 grabs images as in Preset 76 but automatically. The result is about one half second of live video captured as 'grabs'. For best effect, have live image moving and wait until Preset zoom is finished before going to Preset 80.



Preset 80 sets the images grabbed in Preset 79 sliding across the screen. By sliding at a set rate, these grabs superimpose and apparently animate.

Rate of slide is set by HORIZONTAL and VERTICAL PAN. Move these sliders to mid-position to stop sliding and see actual still image 'grabs'.

ZOOM, STRETCH and COLOURIZE all have effects on this Preset. Press INVERT STENCIL and USE STENCIL to put live keyed image in front of boiling images. Use COLOURIZE for greater contrast between background and foreground.



81

OVERLAPPING MIRRORS WITH TRAIL

Live video overlaps its own strobing "reflection".

HORIZONTAL PAN slider positions mirror.

RATE 2 controls rate of strobing. FREEZE stops strobing of mirrored image.



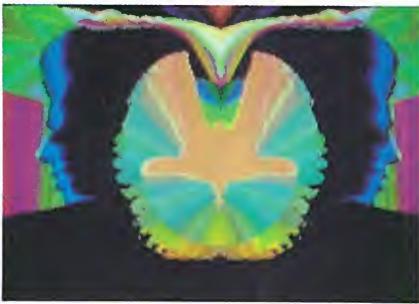
82

KEYED IMAGE WITH COLOUR TRAIL

Keyed image is continuously frozen and stored to background as a block of random colour.

Rate of colour change is controlled by RATE 1.

Use ZOOM, STRETCH and COLOURIZE for more effect.



83

COLOUR TRAIL

Keyed image produces a mirrored trail of blocks of random colour as in Preset 81, but the live video is not displayed, producing a multi-coloured kaleidoscope effect.

FREEZE will stop the trail.



84

KEYED IMAGE WITH BLACK AND WHITE TRAIL

Same as Preset 81 but keyed image is trailed by monochrome grey blocks.

Rate of grey variation is controlled by RATE 1. Use ZOOM and STRETCH for more effect.



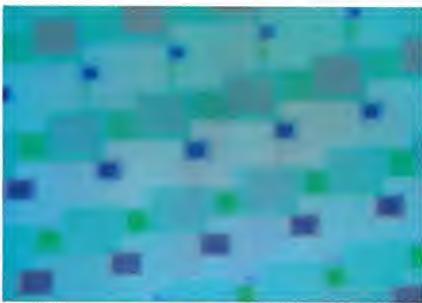
85

KEYED IMAGE WITH TRAIL CRAWL

Same as Preset 81 but keyed image is trailed by blocks of crawling colour. Move Colour sliders for changes in colour. Press FREEZE once to stop update of trail. Press FREEZE again to continue update.

86

MUSIC TRAIL CRAWL Similar to Preset 84, except colour is controlled by audio input. Press FREEZE to freeze Trail crawl. Use ZOOM and STRETCH sliders.



87 & 88

These two presets work as a pair. In Preset 87, random colours are generated while zooming up. For best effect, wait until zooming is finished before going to Preset 88.

Press FREEZE button, then move ZOOM slider right down to smallest size, to see shrinking rectangles. Colour sliders have no effect since Random colour is used.

RATE 1 controls rate of Random colour change. RATE 2 changes rate of zoom.



Preset 88 keys live video over the coloured solid rectangles generated in Preset 87 which give the appearance of continuously expanding from the background.

INVERT STENCIL reverses the effect. ZOOM and STRETCH change the size of the rectangles. Move HORIZONTAL and VERTICAL PAN sliders to mid-position to stop the sliding.



89

DRAWING OVER LIVE VIDEO

Use the graphics pad to draw dots over live video. The HUE, SATURATION and VALUE sliders control the colour. Use the WIPE STENCIL button to erase your drawing. To freeze an image to draw over, press FREEZE.



90

DRAWING CRAWLING LINES OVER LIVE VIDEO

Use the graphics pad to draw crawling lines over live video. To create a title with crawling colour, press TITLE, position it using the stylus, and lift stylus to display current title. The crawl colours can be changed using the HUE, SATURATION and VALUE sliders.



91

TITLING OVER LIVE VIDEO

Position title using the stylus. Select colour using the HUE, SATURATION and VALUE sliders. Current title is displayed when you lift the stylus off the graphics pad. To repeat title press TITLE and repeat procedure. To change the current title, refer to the Title Menu section of this manual. PAN, STRETCH and ZOOM can be used to move or distort titles.



92

MUSIC CONTROLLED CRAWLING RAYS OVER LIVE VIDEO

Colour is music controlled. To draw rays, place the stylus on the graphics pad. Position rays \Rightarrow cursor to desired start point for rays and lift stylus. The next point you touch on the graphics pad will be joined by a line to the first point. By holding the stylus on the pad and moving it slowly a set of rays will be drawn, radiating from the selected starting point. Use the WIPE STENCIL and WIPE COLOUR buttons to clear the drawing.



93

CANVAS PRESET

This preset provides a blank canvas on which to draw, using a small brush shape. Use the graphics pad to draw pictures on the canvas. The HUE, SATURATION and VALUE sliders control the colour.

If you want to draw precisely, turn the DRAW LOCK button off. A cursor will appear on the screen when you touch the graphics pad, but it will not draw. To draw, hold down the DRAW button or press DRAW LOCK again.

To wipe a coloured background behind your drawing, press WIPE COLOUR, then put the stylus on the graphics pad so that a grade \Rightarrow cursor appears at the top of the screen (this will not be visible if the colour selected is the same as the background, in which case you should change the colour controls to provide a contrast). Select a colour using the Colour sliders, then lift the stylus and position it lower down on the pad. Repeat the procedure as often as you like, changing the colour each time. Then press DRAW LOCK. A colour wipe will proceed down the screen, grading smoothly between your colour choices as it progresses. To repeat the same graded colour wipe, press WIPE COLOUR followed by DRAW LOCK.

CONTINUED NEXT PAGE.

93

CANVAS PRESET CONTINUED.....

Press USE TEXTURE before or during the colour wipe for a fine textured background. The picture is not erased when you go to another preset, so when you come back to preset 93 it is just as you left it.

Press TITLE and position title with stylus.

Use ZOOM and PAN to zoom in on a small area of the screen for detailed drawing. COLOURIZE will colourize your drawing (random Opaque colourize type).



94

KEY OVER-UNDER CANVAS Keys live image between your drawing and the background on the canvas in Preset 93. Use graphics pad to draw stars over the live video.

Note: Because this Preset uses Luminance Key, it is set up for adjustment of key levels using the graphics pad. You need to check key levels and press STOP before you can draw.

Press COLOURIZE to colourize the drawn parts of the image with random Opaque colourize.

TECHNICAL SET-UP PRESSETS 95 - 98

Remember that you cannot go forward from Preset 94 to Preset 95 using the footswitch or pressing PRESET followed by the DRAW LOCK button. Either of these actions will take you back to Preset 10.

95

LUMINANCE KEY SET UP

Up and down movement on the graphics pad is the coarse adjustment while movement from left to right is a fine adjustment. Adjust the key to suit and lift the stylus from the graphics pad. The key level can be set by pressing STOP.

96**TEST PATTERN**

Generates a test pattern useful for checking connections, adjustment of monitors etc.

97**COLOUR BARS**

Colour bars are generated for testing and alignment purposes.

98**MUSIC SET UP**

Displays four bar graph meters for bass, middle, treble and envelope. Make sure music is present at the audio input of the machine. Aim to equalise the bar graph heights at about half way up the screen using HUE, SATURATION and VALUE to adjust Bass, Middle and Treble respectively. The COLOUR DEPTH slider is a master gain control. The Envelope bar shows the level of the envelope detector (without filtering). The audio level fed to the ENTERTAINER should be adjusted so that the Envelope bar occasionally peaks to the top.

S A F E T Y P R E S E T 9 9

99**SAFETY PRESET**

Switches instantly to untreated live video. This preset cannot be cued. It acts immediately.



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A B O U T T H E M E N U S

The menus contain all the effects and options that aren't accessible from the front control panel. Using them you can create more varied and complex effects or images. Once you have learnt to use the menus you are no longer limited to the 100 preset effects that Fairlight supply, but can custom-make your own. These can then be stored onto videotape and recalled into the machine at any time (See the Video Save/Recall menu).

HOW TO USE THE MENUS

Having unlocked the menus with the menu key, enter them by pressing the MENU button on the front panel. A menu page with white lettering and symbols on a blue background will appear on the monitor.

Menu choices are made using the pen and graphics pad.

1. Apply firm pressure with stylus on GRAPHICS PAD and notice the cursor appear on menu as a white circle.
2. With the stylus, move the cursor to the item that you wish to select.
3. Lift the stylus from the pad. The chosen item will be highlighted (reverse to blue on white background), or a box will appear around it, indicating your selection.

At the top of each menu are two long horizontal bars which indicate the menus you can select. Firstly, you can select from the top line one of four main categories, PAINT, TITLE, VIDEO and SEQUENCER. Each of these sets of menus contains all the options for a particular form of operation of the ENTERTAINER.

When you have selected a category, the available menus within that category are displayed on the second bar. The name of the menu currently shown on the screen is always highlighted in both bars.

To the right of the top bar is a square symbol. Select this to exit from the menus and return to the screen image. The same result can be achieved by pressing the .STOP button while in MENU mode.

The total choice of menus within the ENTERTAINER is as follows:

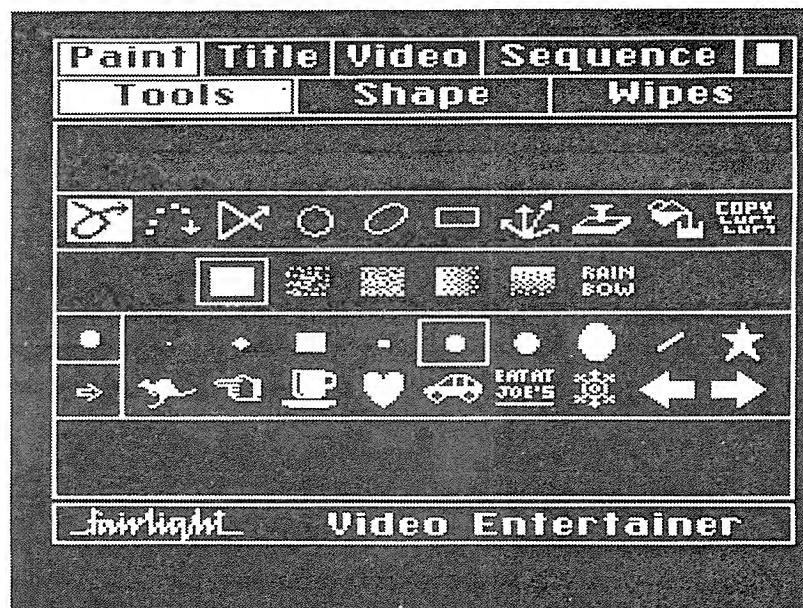
Paint		
Tools	Shape	Wipes

Title	
Library	Edit

Video		
Effects	Save/Recall	System

Sequence		
Library	Record/Play	Edit

PAINT TOOLS MENU



This menu controls all the options available for drawing on the video screen, either on an ENTERTAINER-created background or over live video. It is used in conjunction with the DRAW, DRAW LOCK, DRAW COLOUR and DRAW STENCIL buttons on the Control Panel. To try out the tools in this menu, select Preset 93, which will give you a blank screen on which to draw. When you are selecting the colour you want to draw with, turn off the DRAW LOCK button and hold the stylus to the Graphics Pad while you move the colour sliders. The cursor will change colour but will not draw a permanent shape on the screen until you press DRAW LOCK again.

There are three separate groups of icons on the PAINT TOOLS menu which offer you choices in PAINT METHOD, PAINT TYPE and BRUSH SHAPE.

PAINT METHOD

The top row of icons is for selecting the PAINT METHOD:

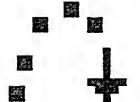


The Paint Method is the way in which a Brush Shape can be used to draw on the screen; choices include straight lines, circles, picking up an area of the background and copying it somewhere else, and so on.



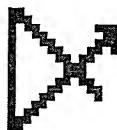
FREEHAND DRAW:

This selection draws lines for as long as the stylus is in contact with the Graphics Pad, in the Brush Shape and colour already selected. This is the selection most like ordinary drawing with a pen or pencil. To position the start of a line, turn off DRAW LOCK and move the cursor to the starting point. Turn on DRAW or DRAW LOCK to draw the line.



DOTS:

You can draw single brush shapes on the screen wherever you put the stylus. If you move the stylus over the pad a line of dots will appear; the speed at which you draw the line determines how close together the dots are. (This is the default Paint Method for Preset 94). Turn off DRAW LOCK to get a cursor to position the first dot, then use DRAW or DRAW LOCK for drawing.



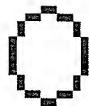
RUBBER BAND:

This is a method of drawing straight lines between two or more points defined by the cursor.

1. Select the **Rubber Band** icon from the Paint Tools menu.
Press STOP to return to the video image.
2. Put the stylus to the graphics pad. A cursor in the current Brush Shape and colour will appear. Adjust the colour using the Hue, Saturation and Value sliders.
3. Move the cursor to the point you want your line(s) to start from, and lift the stylus.
4. Put stylus to pad again. A thin line will appear between the starting point and your current position. This line is not drawn up on the screen yet, but shows you where the line will be drawn.
5. Lift the stylus: The line will be drawn in your current Brush Shape and colour.

The end point of your last line now becomes the start point of your new line, so if you repeat steps 3 & 4, you will draw a series of connecting lines.

If you want to draw a new line with a different starting point press the STOP button on the front panel. Now when you put the stylus back on the graphics pad, you can define a new start point for your line.



CIRCLE:

For drawing circles of any size on the screen - the circle is drawn with current Brush Shape and colour.

1. Select **Circle** from PAINT TOOLS menu.
2. Put the stylus to the pad. A cursor saying **circle** → will

appear on the screen. Move the arrow tip to point where you wish the centre of the circle to be and lift the stylus.

3. Put stylus to pad again. Move it to a point which you wish to be on the outer rim of your circle. A series of dots will appear to define the circle. As with Rubber Band, this will not draw yet but allows you to choose the size of your circle before drawing.
4. Lift the stylus: The circle will be drawn.

Steps 2 to 4 may be repeated as often as desired. If you press STOP before step 4 the circle will not be drawn.



ELLIPSE:

For drawing ellipses of any shape on the screen - the ellipse is drawn in the current Brush Shape and colour. You may define the ellipse as being narrow, wide, short, long, or anywhere in-between, with any orientation and size.

1. Select **Ellipse** from PAINT METHODS.
2. Put the stylus to the pad. The **ellipse** cursor will appear on the screen. Move the arrow tip to the centre of the ellipse that you wish to draw, and lift the stylus.
3. Put stylus to pad again. A series of dots will appear, defining in the shape of a circle. Move the stylus to define the radius, so that the circle will fit just inside (or around) the desired ellipse. Lift the stylus.
4. Put stylus to pad again, and an ellipse of dots will appear on screen, as a guide to the shape and size of the final ellipse. Moving the stylus will stretch or squash the previously defined circle into an ellipse with any desired orientation.
5. Lift the stylus: the ellipse will be drawn.

Steps 2 to 5 may be repeated as often as you like. If you press STOP before step 5, the ellipse will not be drawn.



RECTANGLE:

For drawing rectangles. The rectangles can be of any aspect ratio and size, but they will always be horizontally and vertically parallel. (Use the Rubber band selection to draw non-parallel rectangles).

1. Select **Rectangle** from PAINT METHODS.
2. Put the stylus to the pad. A cursor saying **rect.** \Rightarrow will appear on the screen. Move the arrow tip to the position where you want one corner of the rectangle to be, and lift the stylus.
3. Put stylus to pad again. A series of dots will appear to define the rectangle. Move the stylus until the dots are in the shape and size that you require.
4. Lift the stylus: A rectangle will be drawn in the shape defined by the dots.

Steps 2 to 4 may be repeated as often as desired. If you press STOP before step iv) the rectangle will not be drawn.



RAYS:

For drawing lines radiating from one point.

1. Select **Rays** from PAINT METHODS.
2. Put the stylus to the pad. A cursor saying **rays** \Rightarrow will appear on the screen. Move the cursor to the centre point from which you wish the rays to radiate, and lift the stylus.
3. Put stylus to pad again and draw an arc across the screen. A series of lines using the current paint selections

(Brush Shape, colour etc., will appear joining the rays' centre with the current stylus position).

Steps 2 & 3 may be repeated to create rays with different centres. Changing the HUE, SATURATION, VALUE and COLOUR DEPTH sliders while drawing the arc will change the ray colour.



RUBBER STAMP:

Enables you to 'pick up' an area of the background in the size and shape of the current Brush Shape and copy that area again to other places on the screen as many times as you want. If you want to copy an area larger than any available Brush Shape, use the **Copy** paint method (see below).

1. Select **Rubber Stamp** from PAINT TOOLS menu.
2. Select a Brush from the Brush Shapes section of this menu or create your own Brush in the PAINT SHAPE menu.
3. Put stylus to pad. A cursor in the Brush Shape will appear.
4. Position the Brush Shape over the area you wish to "cut out".
5. Lift stylus. You have now picked up the piece of the image over which the cursor was positioned.
6. Put stylus to pad. The Brush Shape will appear containing the image that you have "cut out".
7. Move Brush Shape to desired position. The cut out image will be copied to this position when you lift the stylus.

Steps 6 and 7 may be repeated until STOP is pressed, when the ENTERTAINER returns to step 3, and allows you to

define another area for copying.

In order to use the last two Paint Methods, you need to be able to draw a Stencil. In Preset 93, both DRAW COLOUR and DRAW STENCIL buttons are lit, which means that any picture you draw will also be defined as a stencil. When only DRAW COLOUR is lit, you are just drawing an image, but cannot manipulate it as a stencil. If only DRAW STENCIL is lit, you can define a stencil shape but it will not be visible as a coloured shape on the screen. Push these buttons once to turn them off or on.



FILL:

This paint method enables you to fill an area on the screen with stencil, colour or texture. The area to be filled is drawn as a stencil, which must be created before the **Fill** function is started. The boundary of the area to be filled must be continuous; if there are any 'leaks' the **Fill** will become "spill" and colour the whole screen. To terminate **Fill** before it is complete, press the STOP button.

1. Select Fill from the PAINT TOOLS menu.
2. Put the stylus to the pad. The stencil will be highlighted and a cursor saying **fill** → will appear on the screen. If you wish to fill with colour, make sure the DRAW COLOUR button is on at this point; if you wish to fill only with stencil, leave this button off. If you wish the filled area to be textured, make sure the USE TEXTURE button is on. (Select your texture beforehand from the PAINT TOOLS menu.)
3. Keeping the stylus firmly on the pad, alter the HUE, SATURATION, VALUE & COLOUR DEPTH sliders to the desired colour. Move the cursor to a point inside the area

of stencil that you wish to fill

5. Lift the stylus. The stencilled area will be filled.

Repeat steps 2 to 4 to fill other stencil areas.



COPY:

This is a cut and paste function that allows you to copy any shaped area as many times as you want anywhere on the screen.

1. Select **Copy** from PAINT TOOLS menu.
2. If the area you want to copy is not already defined as a stencil, use the DRAW STENCIL button and draw a stencil over it, or use Stencil Wipe functions such as Colour Detect. You may need to use the Clear Stencil Wipe to remove any old stencils which remain.
3. Put stylus to pad. A cursor saying **from** ➔ will appear, and the stencil area will be highlighted.
4. Move the tip of the cursor to a point within the stencilled area (This is the critical step: ensure that the cursor tip is within the correct region, or the background will be copied!)
5. Lift the stylus from the GRAPHICS PAD.
6. Put stylus to pad again. Another cursor appears on screen saying **to** ➔. Move the cursor to the position to which you wish to copy the stencilled image.
7. Lift the stylus from the pad. The copy function will commence and take approximately 5 seconds to complete.

Repeat steps 2 to 7 to make multiple copies of the original image.

If the USE TEXTURE button is on, the copied image will be textured.

The initial image - that is, the original stencilled area, is protected from being copied over. If the copy is intended to overlap the initial image, cancel the protective stencil by turning USE STENCIL off between the **from** ➡ and **to** ➡ cursors.

All of the stencilled areas of the polarity selected by the **from** ➡ cursor will be copied. They do not have to be connected.

PAINT TYPE

The second row of icons chooses the PAINT TYPE:



The PAINT TYPES define the distribution of colour, or opacity across the brush. Each approximates a different type of painting media such as flat acrylics (Flat), crayons (Mottled), and airbrushes (Shade).



FLAT:

The simplest paint type. All of the area covered by Brush movement has consistent colour distribution.



SPATTER:

This selection leaves a spattering of random dots in the drawn areas.



MOTTLED:

Provides a mottled effect: the lines drawn have random colour depth variations over the width of the Brush, providing an irregular appearance.



SHADE ACROSS :

The left hand side of the Brush has full intensity colour, which decreases across the Brush Shape to the right hand side.



SHADE DOWN :

The top of the Brush has full intensity colour, which decreases down the Brush Shape to the bottom.

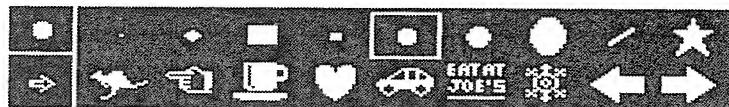


RAINBOW:

This paint type is different from the others, in that it ignores any colour specified by the HUE, SATURATION and VALUE sliders and produces rainbow colours which are related to the position of the drawing on the screen.

BRUSH SHAPE

The third and fourth rows of icons select the BRUSH SHAPE.



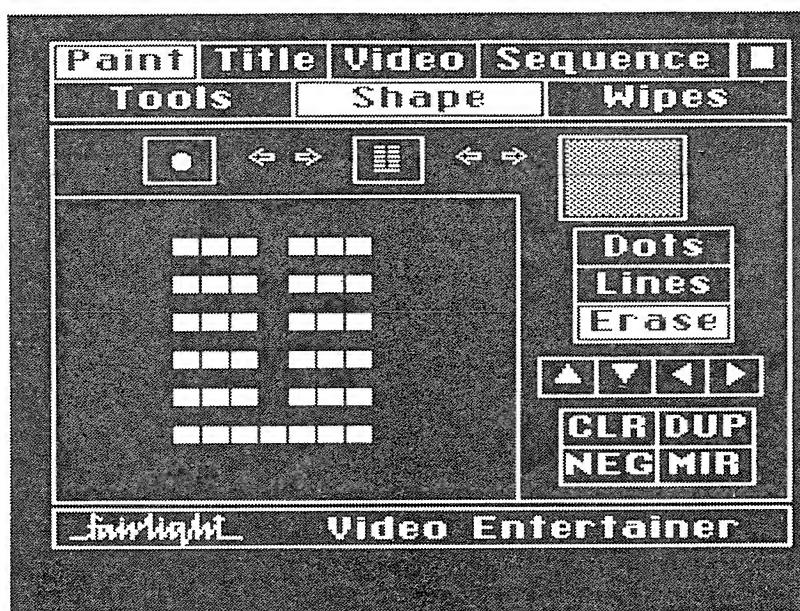
Brush Shapes are the primary Paint Tool. You can use the brushes stored in the memory of the ENTERTAINER or you can create your own.

Select a Brush Shape by positioning the cursor over the shape and lifting. A box appears around the shape and a copy of it is shown in the box at the left of the upper row, indicating that it is the current Brush Shape and will be used in the current Preset.

The top row of brush shapes cannot be changed, but the Brushes on the lower row can be replaced with User-defined Brush Shapes which you create on the PAINT SHAPE menu.

To edit a Brush Shape or create a new one, you first need to select which of the lower row shapes you will replace with your new one. The selected brush becomes the **current Brush Shape**. Now go to the PAINT SHAPE menu.

PAINT SHAPE MENU



This menu is for editing **Brush Shapes and Textures** in order to create your own effects. You can either start with an existing brush or texture and modify it, or clear the edit space and start from scratch.

Before you enter the Paint Shape menu, you need to choose which brush shape or texture you are going to edit or replace with the new shape (see Paint Tools menu above). When you enter the Paint Shape menu, the current **Brush** and current **Texture** are displayed in the top left and right hand corners respectively of the menu. They can be shifted into the middle box (to be edited) or into each other's boxes by

using the arrows in between. In this way, you can transfer a Texture to the PAINT TOOLS menu to be used as a Brush Shape or a Brush Shape to the PAINT WIPES menu to be used as a Texture.

If you want to edit the current brush shape or texture, you can shift it into the edit space by selecting the appropriate directional arrow between the three boxes to move it into the middle one. A magnified view of the existing shape will also appear in the Edit Space (the large box in the lower left part of the menu). Each small square inside the edit space represents a single pixel.

Every change you make in the Edit Space will immediately show in the middle box at the top of the menu, so you can see what your shape looks like at its real size.

EDIT METHODS

DOTS:

The **Dots** selection to the right of the edit space is used for drawing in the edit space a single pixel at a time. If you select an unlit square with the cursor, it lights up. If you select a lit one, it turns off.

LINES:

The **Lines** selection works like Rubber Band in the PAINT TOOLS menu. To start a line at a new point, take the cursor outside the edit space. When you move the cursor back into the edit space, the first point you pick will become the start

ERASE:

The **Erase** selection is exactly the same as Lines except that it turns pixels off instead of on. Therefore if you drag it across a part of the edit space where there are no pixels on, nothing will happen.

EDIT ARROWS

The **arrows** underneath the Edit Methods are for shifting the work within the edit space pixel by pixel. For example, moves the brush shape inside the edit box one pixel to the left. Similarly for , and . Note that a shape touching the side of the edit box cannot be shifted further in that direction.

The arrows are also used in conjunction with the Special Edit Functions below.

SPECIAL EDIT FUNCTIONS

The four selections underneath the Edit Arrows are special Edit Functions. These boxes have to be selected twice to produce a result. The first time you select it, the box will light up; the second time, it will take effect. If you hit it once by mistake, move the cursor to anywhere else on the menu, lift the stylus, and the box will turn off.

Alternatively, you can select a box once, followed by one of the edit arrows, in order to perform the function on only part of the shape.

CLR

Clears the edit space.

Use the Edit arrows to clear part of the edit space only. For example, select CLR followed by ➤ to clear the right half of the shape.

NEG

Produces the negative of the shape currently in the edit space. That is, it turns off the pixels that are on and turns on the pixels that are off.

Again this operation can be limited to half of the edit box by selecting NEG followed by one of the arrows

DUP

Duplicates the image in the four quarters of the edit space.

Use the Edit arrows to select which quarters you wish to duplicate your existing shape into.

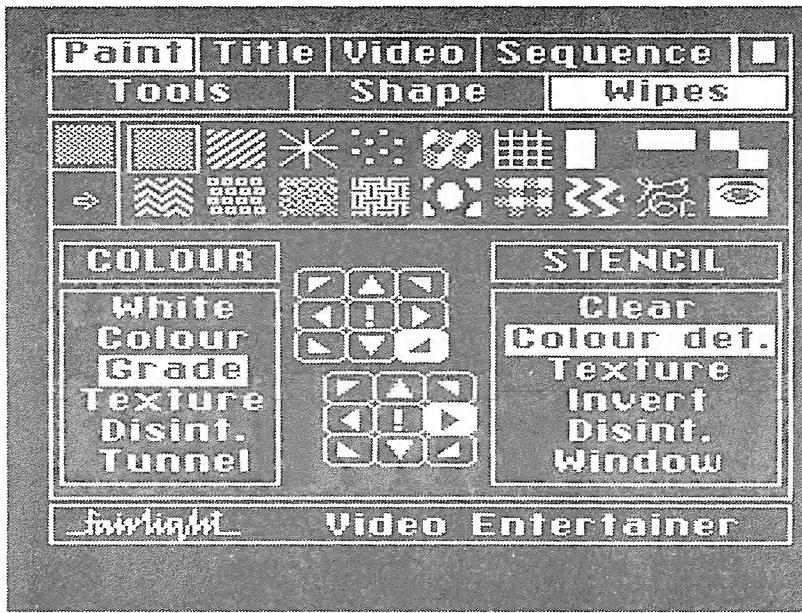
MIR

Mirrors the existing pixels around horizontal and vertical axes in the middle of the edit space.

You can select which parts of the image are mirrored by selecting MIR followed by an arrow.

When you have completed your edit, shift it into the current Brush or Texture using the appropriate arrow at the top of the screen. Then go to the PAINT TOOLS (or, for Textures, the PAINT WIPES) menu and select the arrow at the left hand side of Brush Shapes or Textures to store your new shape into the space you previously selected. It will also become the current Brush Shape until you make another selection.

PAINT WIPES MENU



This menu offers COLOUR WIPE, STENCIL WIPE, WIPE DIRECTION AND TEXTURE selections. Selections are used in conjunction with the WIPE COLOUR and WIPE STENCIL buttons on the Control Panel.

The first two rows of icons are **TEXTURE** selections.

The box to the left of the upper row indicates the current Texture.

Textures in the second row can be replaced with user defined Textures which you create on the PAINT SHAPE menu.

To produce a textured wipe:

1. Select **Texture** under **COLOUR** on the PAINT WIPES Menu. Choose a texture. To wipe a textured stencil across the screen, **Texture** must also be selected under **STENCIL** on the PAINT WIPES Menu.
2. Press WIPE COLOUR button for a coloured texture, WIPE STENCIL for a textured stencil.

To draw using texture, select a Texture and press USE TEXTURE before drawing.

To use a texture as a Brush Shape, select a Texture as the current Texture, then use the arrows within the PAINT SHAPE menu to transfer it to the current Brush Shape box.

The box on the left labelled COLOUR offers choices for COLOUR WIPES, while the box next to it containing arrows shows the **WIPE DIRECTION**. By selecting an arrow you can choose the direction in which the wipe will move across the screen. These directions are used differently by **Disintegrate** or **Tunnel** Wipes.

Select a direction by positioning the cursor over one of the arrows and lifting. When you have made your choice from the COLOUR WIPES selections, and press the WIPE COLOUR button, the wipe will proceed across the screen in the direction of the arrow. The light in the WIPE COLOUR button goes out as soon as the wipe is completed, and the machine beeps. You can stop a wipe halfway by pressing the STOP button.

! in WIPE DIRECTION produces an instant wipe of the whole screen, and can only be used with the **White** and **Colour** selections. The other wipes will proceed either in a top down direction or in the method applicable only to that wipe when this selection is made.

In some presets, the colours for drawing and wipes is controlled from music or are generated randomly, instead of from the Colour sliders. In these presets, you can use the Colour sliders to equalize the music, or the Rate 1 slider to adjust the randomness. This applies to the Colour, Texture, Disintegrate and Tunnel Colour Wipes.

WHITE:

Clears the screen to white, no matter what direction is selected

1. Select **White** in COLOUR WIPES menu.
2. Select a direction or the instant wipe option.
3. Return to image (press the STOP button on the front panel).
4. Press WIPE COLOUR button.
5. The screen will wipe to white in the selected direction.

COLOUR:

Clears the screen to the colour specified by the HUE, SATURATION and VALUE sliders.

1. Select **Colour** in the COLOUR WIPES menu.
2. Select a direction or the instant wipe option.
3. Return to image.
4. Adjust the HUE, SATURATION and VALUE sliders to choose a colour and press the WIPE COLOUR button.

-
5. The screen will be wiped to the colour you've chosen.
Adjust colour sliders and press WIPE COLOUR again to change the colour.

Note: The screen colour and the drawing colour will now be the same. The cursor and any lines drawn will not be visible (as they will be the same colour as the background) unless the colour is changed.

GRADE:

This wipe allows smoothly graded backgrounds to be created easily and repeatably.

1. Select **Grade** in COLOUR WIPES.
2. Select a direction for the wipe.
3. Return to image.
4. Press WIPE COLOUR button.
5. Put stylus to pad. A cursor saying **grade**  will be displayed.
6. Use the HUE, SATURATION, VALUE and COLOUR DEPTH sliders to vary the cursor colour to the desired setting.
7. Move the tip of the cursor arrow to the screen position where you wish the selected colour to appear, and lift the stylus. The colour and position are recorded.
8. Repeat steps 5 to 7 as many times as required (up to 20) to enter a number of colours and positions.
9. When the desired entries have been made, press the DRAW LOCK button.
10. The wipe will proceed in the direction selected with the colour graded between the colours and positions that you have entered.

Notes:

- 1 The USE TEXTURE button may be used to add a textured pattern.
- 2 The USE STENCIL button will protect any stencilled areas while the rest of the screen is wiped to a different colour.
- 3 The wipe may be repeated using the same colour and screen position entries by pressing WIPE COLOUR followed immediately by DRAW LOCK.

TEXTURE:

Wipes the screen using the selected Texture. The colour is specified by the HUE, SATURATION and VALUE sliders. Altering the Colour sliders during the wipe will change the colour of the texture across the screen.

1. Select **Texture** in COLOUR WIPES and a direction.
2. Select a Texture pattern.
3. Return to image.
4. Press WIPE COLOUR button.
5. The texture will be wiped over the screen in the selected direction.

DISINTEGRATE:

Draws random dots over the screen until the STOP button is pressed. The dots are written using the current Brush and the current colour, which may be changed during the wipe using the Colour sliders. With **Disintegrate** wipes, each direction arrow produces a different disintegrate pattern.

1. Select a brush shape in the PAINT TOOLS menu.
2. Select **Disintegrate** in COLOUR WIPES and a direction.
3. Return to image.

-
4. Press WIPE COLOUR button.
 5. Random dots will appear on the image in the Brush shape and Colour selected. Move the Colour sliders to change the colours of the dots. If the colour control in the Preset selected is Random, each dot will be a different colour.
 6. Press STOP to terminate the process.

TUNNEL:

Provides a continually changing background that radiates out from or in to the screen centre.

1. Select **Tunnel** in COLOUR WIPES.
2. Return to image.
3. Press WIPE COLOUR button.
4. A pattern is drawn on the screen, taking approximately 3 seconds to complete. After this, the current colour will begin radiating out from the centre of the screen.
5. Move the colour sliders to produce new colours in the centre of the tunnel.
6. Use the PAN, ZOOM and STRETCH sliders to adjust the shape and position of the Colour Tunnel on the screen.
7. Press STOP to terminate the process and return to the original pattern.

Note: Direction selections work differently for Tunnel wipes. The central ! selection and all diagonal arrows () produce a square tunnel; and produce colours flowing up and down the screen in bars; and produce colours flowing to the sides of the screen from the centre in columns.

The box on the right of the screen holds the STENCIL WIPES, with the Stencil WIPE DIRECTION box to its left. The directions apply to all Stencil Wipes except Window.

Select a direction by positioning the cursor over one of the arrows and lifting. When you have made your choice from the STENCIL WIPES selections, and press the WIPE STENCIL button, the wipe will proceed across the screen in the direction of the arrow. As with the Colour Wipe button, the light in the Wipe Stencil button goes on when the wipe commences and goes out again with a beep once the wipe is complete. You can stop the wipe midway by pressing the STOP button.

! produces an instant wipe of the whole screen, and can only be used with Clear in STENCIL WIPES. The other wipes will proceed in a top down direction if this icon is selected.

Stencil Wipes are similar to colour wipes in that they affect the entire screen, but they affect only the Stencil shape and not the colours that appear on the screen. You will normally only see the effect of a stencil wipe when using a Preset which uses the stencil. The USE STENCIL and INVERT STENCIL buttons are the ones you will use most with these wipes. Try turning them on and off with a few Presets which show two different images on the screen simultaneously to understand how they work.

Preset 89 may be a useful basis for trying out the Stencil wipes, as in this preset a coloured background shows through the stencil, making it clearly visible with live video. Note that the USE STENCIL, DRAW STENCIL and DRAW COLOUR buttons are on.

CLEAR:

Clears the stencil.

1. Select **Clear** in STENCIL WIPES.
2. Select a direction arrow from the WIPE DIRECTIONS.
3. Return to image.
4. Press WIPE STENCIL button.
5. The entire stencil plane will be cleared to either Off or On.
If the ! direction key is used, the wipe will be instantaneous.

On Preset 89, the result of the Clear Stencil wipe is to show a untreated live video on the screen, which is the Stencil Off selection. If you then press the INVERT STENCIL button you will get a plain coloured screen, which is the Stencil Off selection. Try drawing over the live video, then pressing INVERT STENCIL again to see how the Stencil shape keys the two images together.

COLOUR DETECT:

This wipe enables you to select a colour in a frozen image or a graphic to be stencilled. It is useful if you have a drawing that you haven't defined stencil areas in, or if you wish to key out certain areas of a frozen image.

To produce a frozen image in Preset 89, press INVERT STENCIL so that you can see what is the other side of the stencil, then press FREEZE twice. Turn off the USE STENCIL button.

1. Select **Colour Detect** in STENCIL WIPES.
2. Return to image.
3. Press WIPE STENCIL button.

-
- 4. Put the stylus on the Graphics Pad: a cursor displaying **stencil** ➔ will appear on screen.
 - 5. Move the cursor arrow tip to the colour that you want to stencil.
 - 6. Lift the stylus: all occurrences of this colour and similar colours will be detected, and the stencil will be turned on in these areas. This wipe takes approximately 6 seconds to complete, and moves in the direction selected.

When you turn the USE STENCIL button back on, you will see that the new stencil area defines where the live and frozen video are shown on the screen.

TEXTURE:

Clears the stencil and then draws whatever texture is chosen in the TEXTURE selections in a stencil across the screen.

Freeze a single frame of video in Preset 89 by pressing INVERT STENCIL and then pressing FREEZE twice. Press INVERT STENCIL again to return to the live video.

- 1. Select **Texture** in STENCIL WIPES and a direction.
- 2. Choose the desired Texture in the TEXTURES selection.
- 3. Return to image.
- 4. Press WIPE STENCIL button.
- 5. The Texture will be wiped over the stencil in the direction selected.

You will see the frozen image appear in the pattern of the texture. Press INVERT STENCIL again to reverse the areas where live and frozen video are seen.

INVERT:

This wipe inverts the stencil, that is where there is stencil it turns the stencil off, and where there is no stencil, it turns it on. It takes a few seconds to complete.

1. Select **Invert** in the STENCIL WIPES and a direction.
2. Return to image.
3. Press WIPE STENCIL button.
4. The wipe will take place across the screen in whatever direction specified in the WIPE DIRECTIONS.

DISINTEGRATE:

The screen will disintegrate between the two images on either side of the stencil. For example, the result may be a 'crumbling' of a still image into a live video image or vice versa.

With the Disintegrate option, each direction arrow will produce a different pattern.

1. Select **Disintegrate** in STENCIL WIPES menu.
2. Select a Direction arrow from the WIPE DIRECTIONS options.
3. Return to image.
4. Press WIPE STENCIL button.
5. The stencil is cleared in the display area, then random dots will gradually fill the stencil plane.

WINDOW:

This instantly clears the stencil in the displayed area, creating a rectangular window with a size and aspect ratio defined by the STRETCH and ZOOM controls. It is useful for wiping a small area of the stencil without affecting the rest.

1. Select **Window** in STENCIL WIPES.
2. Return to image.

-
3. Use the PAN, ZOOM and STRETCH sliders to select the area of a frozen or painted image in which the stencil is to be wiped. It will wipe the entire visible screen area.
 4. Press WIPE STENCIL button.
 5. The stencil in the area selected in step 3 is cleared instantly. Return PAN, ZOOM and STRETCH sliders to normal positions to see the result.
 6. Press the INVERT STENCIL button to swap on and off areas of the stencil.

TITLE LIBRARY MENU



The TITLE LIBRARY gives you access to up to 100 titles which you can create and store in the ENTERTAINER. The menu displays the Current Title, Stored Titles, and a number of Library functions to help you save and find titles. The entire library may be saved and restored using the Save & Recall functions in the VIDEO SAVE & RECALL menu.

Located under the menu header is the **Current Title**.

This is the title that appears on the screen when you use the TITLE button. To edit the Current Title, select the TITLE EDIT menu.

Below the Current Title is listed the contents of the Title Library. Up to 99 titles may be stored in the library. Five titles from the library are displayed at a time, each preceded by its library number.

Use ▲ to move the library display back to the five previous titles in the library.

Use ▼ to display the next five titles.

SELECT:

Moves a Stored Title into the Current Title. For example, select Stored Title number 2 by highlighting the box containing 02 followed by **Select**. Title No. 02 is now the Current Title.

FIND:

Gives you direct access to any of the 99 titles in the library. For example, to display title number 85, select any numbered box, e.g. 02, then press button 8 on the front panel, followed by 5. The selected number box now reads 85. Now select **Find**. The display shows the titles around number 85 in the library.

REPLACE:

Saves the current title into a library space. Select the Title Number at which you want to save the Current Title, then select **Replace**. If there is already a title in the space you choose, it will be lost, so be careful.

INSERT:

Inserts the current title into the library. Choose the Title Number at which you want to save the Current Title, then choose **Insert**. All titles after that number are moved down one space, and if there is a title in the space you choose, it will also move down one and therefore won't be lost. However, if there is a title at no. 99, it will be lost, as there is nowhere for it to move to.

DELETE:

Deletes the currently selected title. Choose the Titles Number, then select **Delete**. That title will disappear and all titles after it will move up one space.

ROLL:

Scrolls titles on the screen. Rather than just displaying one Current Title onto the screen, all the titles from the Title Library are displayed, one after the other.

The TITLE button on the front panel operates quite differently with **ROLL** selected. Pressing TITLE displays Library Title No. 1 at the bottom of the screen. The title then rolls up to the top of the display and disappears, and the next Title is scrolled up the screen. This process continues until an empty title or the end of the library is reached.

How fast the titles move up the screen depends on the RATE 2 slider. With RATE 2 at the bottom of its travel, no scroll will result. The title will sit at the bottom of the screen, as a **subtitle**. In this case, press DRAW LOCK to proceed to the next title.

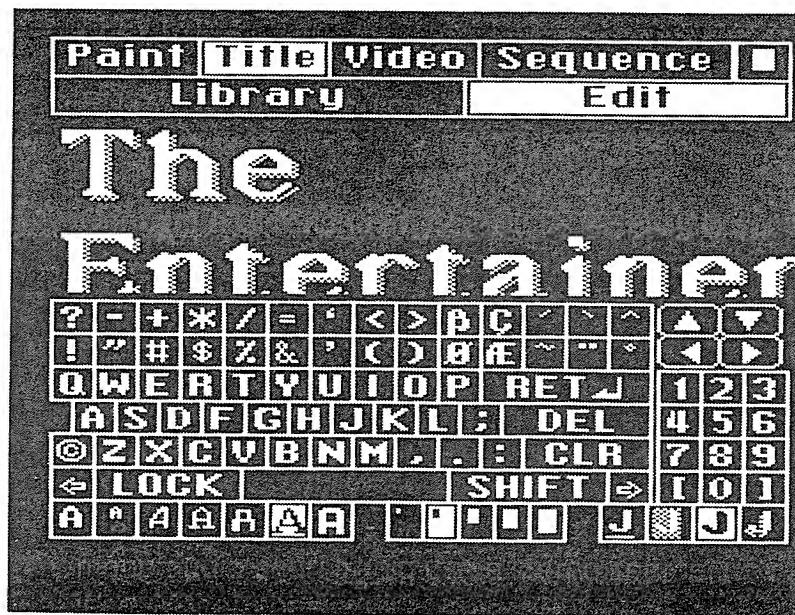
EXT KEYBOARD:

This selection is normally off, unless you have an optional Fairlight QWERTY keyboard for typing in titles. When this selection is on the TITLE EDIT menu does not display the screen keyboard for selection of characters in creating titles.

CLR LIBRARY:

Select twice to delete all library titles.

TITLE EDIT MENU



The TITLE EDIT menu is where you edit the Current Title. Select from the on-screen keyboard by moving the cursor over the desired character and lifting the stylus. The letters will appear in the title edit area at the top of the display, under the flashing cursor. Text will appear in lower case unless LOCK or SHIFT is selected prior to character choice. These and other control keys are explained below.

LOCK:

Produces upper case characters until it is turned off.

SHIFT:

Produces an upper case character only for the next character selected.

Several European punctuation symbols can be accessed with the SHIFT key:

SHIFT ? produces ¿

SHIFT ! produces ¡

SHIFT < produces «

SHIFT > produces »

SPACE BAR:

Inserts a space in the text.

DEL:

Deletes the character or space before the flashing cursor.

RET:

Moves the flashing cursor to the start of the next line.

CLR:

Clears the entire title so you may start afresh. **CLR** must be selected twice to prevent accidental erasure: the first time it illuminates the **CLR** box, the second time clears the title.

There are four cursor positioning keys. ▲ moves the flashing cursor up one line. Similarly, ▼ moves down a line, ◀ one character left and ▶ one character right.



KERN:



↔ and → are the KERN keys situated on either side of the **SPACE BAR**. Kerning refers to pixel-by-pixel movement of a character. By positioning the flashing cursor over a letter in the edit area you can move it left or right a pixel at a time. With Size 1 selected, kerning is done in amounts of one pixel; Size 2 results in a two-pixel shift, and so forth (see character size below).



FONT:

Select from the row of A's at the left bottom of the screen. Each letter A shows the style of the font chosen. The currently selected font is highlighted.



CHARACTER SIZE:

Character size is selected from the size boxes. They range from Size 1 (smallest) leftmost in the group, to Size 5 (largest).

FONT EFFECTS

The last four boxes on the right select **Font Effects**. Once selected, they remain in effect until turned off by selecting again with the stylus:



UNDERLINE:

Underline does just that.



BACKGROUND:

Produces a background in the complement of the colour of the title; e.g. a red title will have a cyan background.



DROP SHADOW LEFT:

Places a black shadow below and to the left of the character.



DROP SHADOW RIGHT:

Places a black shadow below and to the right of the character. Only one of the drop shadows may be used at any one time.

TITLING PROCEDURE:

(with **ROLL** in TITLE LIBRARY menu OFF)

1. Create the title using the TITLE EDIT menu.
2. Return to the screen image by pressing the STOP button.
3. Select Preset 91. This preset automatically presses the TITLE button for you.
4. Position the stylus on the GRAPHIC PAD. A title cursor will appear on the screen, with the size of the title indicated by the extent of the cursor. Adjust colour sliders to select the colour of the title.
5. Lift the stylus from the GRAPHIC PAD. The title will appear where you positioned it.
6. To display further titles, press the TITLE button and proceed from step 4.

VIDEO EFFECTS MENU



This menu is used for changing the FREEZE CONTROL, for turning on the MIRROR effects and for selecting COLOURIZE TYPES. To experiment with this menu select a Preset which uses a live video effect such as colourise or strobe. Preset 45 is a good example, as it uses a single simple effect.

FREEZE CONTROL

The top half of the VIDEO EFFECTS menu contains the FREEZE CONTROL options, which are used in conjunction with the FREEZE button.

Freeze Control allows you to choose one of several different effects associated with freezing treated live video.

NORMAL:

Freezes then unfreezes with alternate FREEZE button presses.

SINGLE:

Acquires a new frozen image each time the FREEZE button is pressed (you do not need to turn FREEZE off in between). Only displays a still image.

STROBE:

Constantly updates the frozen image at a rate set by the RATE 2 slider. Use the FREEZE button to display a still image.

MUSIC:

Freezing of a new image occurs every time there is a peak in the bass levels of the audio input.

STOP-GO:

Shows bursts of moving video alternating with freezes. The speed of the alternation is controlled by the RATE 2 slider. The effect is not visible with RATE 2 at the top of its travel. Press FREEZE to display a still image.

REFLECTIONS

The box in the bottom half of the page controls the REFLECTIONS.

You can select any or all of the mirrors and reverses at the same time. Use PAN and STRETCH to alter the effect.

H. MIRROR:

Creates a reflection around a horizontal axis at a position controlled by the **VERTICAL PAN** slider.

H. REVERSE:

Reverses the picture so that the left hand side becomes the right.

V. MIRROR:

Creates a reflection around a vertical axis at a position controlled by the **HORIZONTAL PAN** slider.

V. REVERSE:

Inverts the picture so that the bottom is at the top.

COLOURIZE TYPE

The final menu group modifies the COLOURIZE TYPE. When the COLOURIZE button is on, the colours of the live video are modified according to these choices and the positions of the colour sliders.

Within the 4096 colours of the ENTERTAINER, any colour on the screen may be changed to any other colour. COLOURIZE TYPE sets a range for these colour changes.

The COLOUR DEPTH slider is important as it governs the degree of colourizing. When the slider is at the middle (zero) position, colourizing will not be visible. As soon as the slider is moved away from the middle point, the colourization takes effect with more intense colourizing as it is moved up towards +, and negative colourizing of image as it moves down towards -.

As there are about 1,000,000 colourizings available through the use of the COLOURIZE TYPES, it is not possible to describe them all. Experimentation is the only way to get a good idea of the ENTERTAINER's colourizing capabilities. If you create a colourized effect that you particularly like, it can be saved as a PRESET (see VIDEO SYSTEM menu) for later use.

OPAQUE:

Changes the screen image to solid colour selected with the HUE, SATURATION and VALUE sliders. As it takes some time to take effect, you can move the sliders to change the colourization before the screen has become a uniform colour. Where the colour control is Random, the colourization just keeps on changing.

TRANSLUCENT:

Similar to overlaying the image with a translucent film of variable density and colour. The degree of translucency is determined by the COLOUR DEPTH slider. This varies from invisible with the COLOUR DEPTH slider at 0 to the same effect as the Opaque selection with the COLOUR DEPTH at top or bottom. With the COLOUR DEPTH slider below the centre, the original image is turned into a negative before overlaying the colour.

SPECTRUM:

Colourize is related to the intensity information in the original video image. The COLOUR DEPTH slider can be used to produce different degrees of the effect. The HUE slider sets the major colour, VALUE controls the colour range and SATURATION controls the brightness of the colours.

SOLARIZE:

Creates perhaps the most dramatic and beautiful, as well as varied, colourizings. A wide range of effects similar to photographic solarization which can only be understood by experimentation.

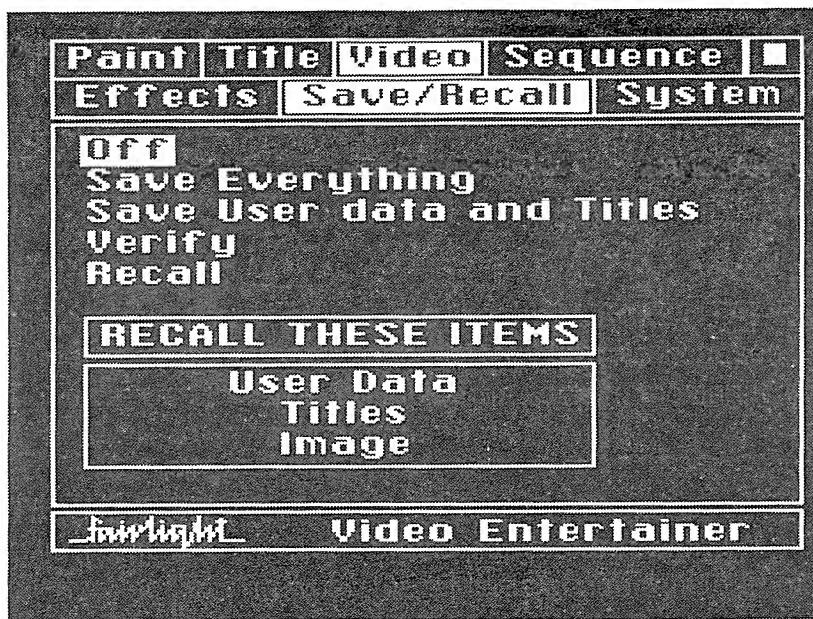
MONO:

Converts to a monochromatic picture in any selected colour. When the COLOUR DEPTH is negative, a tinted mono negative will result. With COLOUR DEPTH at positive, and the colour sliders set to light brown, the result is similar to sepia-tone.

CONTOUR:

Generates a range of colour contours on the screen. Dark colour settings of the colour controls will result in a large number of colour contours, closely spaced. Brighter colours will reduce the number of contours, but make them more dramatic. Again, it is best to find out what this colourize type does by experimentation with the colour sliders.

VIDEO SAVE/RECALL MENU



When you create Presets, Sequences, Titles, Brushes, Textures or still pictures on your ENTERTAINER that you want to keep, you can store them digitally onto video tape or cassette, to be recalled into the ENTERTAINER at any time using this menu.

Any variety of video tape may be used for this purpose provided that it can record and replay a video signal.

To use this function, your ENTERTAINER must be patched into the appropriate VTRs. This means if you are saving, the *output* of your ENTERTAINER must be going to tape, and if you are recalling, you must play the tape which holds your

saved information on a VTR which is sending its video signal to the *input* of the ENTERTAINER. You must be able to view the output of the ENTERTAINER on a monitor.

The ENTERTAINER cannot control your video cassette or tape recorder, so you must fast forward or reverse the video recorder to the point on the tape where you wish to record or retrieve the information.

SAVE EVERYTHING:

To save all the information from the ENTERTAINER, i.e. both the still image currently stored and all data such as Presets, Titles etc.:

1. Make sure your video output from the ENTERTAINER is going to a VCR. Load the tape you wish to save onto and locate the place on the tape where you want to record.
2. Go to the TITLE EDIT menu and write a title which tells you what you're saving. There is no need to save this title into the Library.
3. Press Record on the VCR.
4. Go to the SAVE/RECALL menu.
5. Select **Save Everything**.
6. Press the STOP button on the front panel.
7. The ENTERTAINER will now display an identification, including the title you just wrote, for 5 seconds. This will be recorded on the VCR, helping you to find the image on the tape at a later time. Following this is a display of the still image (5 seconds).
8. Now the information will start recording digitally. What you see is a dark screen with a series of white lines moving across it like the bar codes on supermarket items.

-
9. After 3 to 4 minutes, the ENTERTAINER will beep at you to indicate the end of the saving process. Press STOP on the VCR.

SAVE USER DATA AND TITLES:

Similar to Save Everything, except that the image is not saved. Consequently, Save data takes only 1 minute to complete.

The procedure is exactly the same as for **Save Everything**, except that in step 5 you select Save Data on the menu. This will only take 1 minute.

RECALL:

This function recalls the information you have previously saved onto video-tape, and puts it into the ENTERTAINER's memory.

Note: Recalled information will overwrite anything that is currently in the machine, so the image, sequencer, presets etc. in the ENTERTAINER before you recall, will be lost. If you think you will need this information later you can save it separately before using Recall.

Which information is recalled depends on the selection(s) you have made in the box headed **RECALL THESE ITEMS** in the lower half of the menu. **User Data** in this box refers to all the Sequences, Presets, Brushes, and Textures.

1. Load the tape which contains the information you previously saved into a VCR whose output is being fed into the input of the ENTERTAINER. Locate the

identification and picture for the information you wish to recall.

2. Go to the VIDEO SAVE/ RECALL menu.
3. Select **Recall**, and the item(s) that you wish to recall.
4. Press the STOP button on the ENTERTAINER to exit from the menus.
5. Press play on the VCR and when the identification of the saved information is displayed, press the DRAW button on the ENTERTAINER.
6. The ENTERTAINER should give a beep after several seconds to indicate the recall is working, after which the data from the VCR will be visible on the left half of the screen.
7. The ENTERTAINER will beep to indicate end of the Recall process. If you are recalling the Image, this will take 3-4 minutes; otherwise it will only take 1 minute.
8. Press STOP button on VCR.

Note: If there are any problems with the Recall procedure, the ENTERTAINER will display a message which tells you what went wrong. If a line of the message starts with **▶**, it means that the corresponding data block has been reset to factory settings.

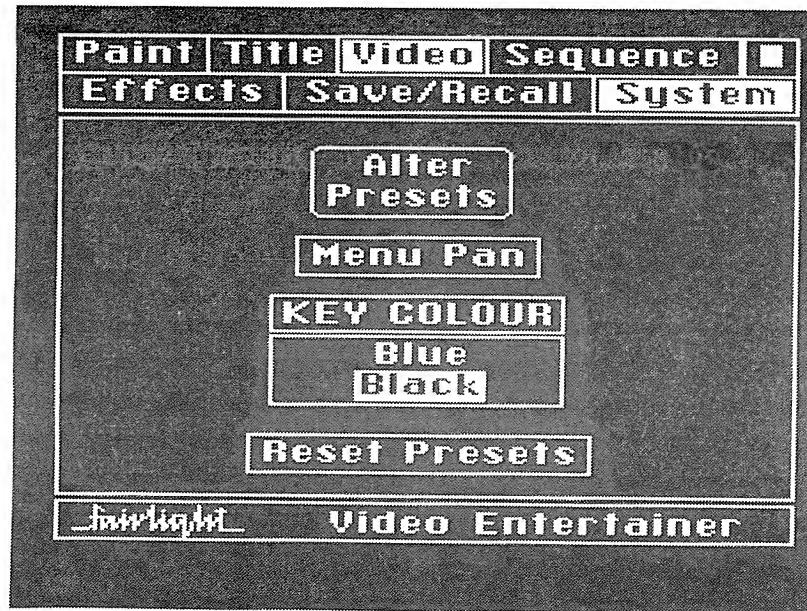
VERIFY:

To test whether it is possible to recall the PRESETS and SEQUENCES data from tape, without actually altering data already stored in the ENTERTAINER. This test takes one minute to complete and is a useful way of verifying that data has not been lost when saving due to bad tape or recording

conditions. A message on the screen indicates the result of test.

The procedure is the same as Recall above except that in step 3 you choose **Verify** instead of Recall. Note that you cannot do a test recall of an Image, only of the Data.

VIDEO SYSTEM MENU



This menu holds the programming options for the ENTERTAINER, including Key colour selection and Preset programming.

ALTER PRESETS:

When this is selected you can program your own presets.

To alter a Preset:

1. Choose **Alter Presets** in the VIDEO SYSTEM menu.
2. Choose the Preset number that you want your new preset to be in by pressing the PRESET button followed by two numbers from the front panel.

-
3. Make changes to the Preset in the menus, and with the buttons and sliders on the front panel, to create a new effect.
 4. Press the PRESET button on the front panel, followed by the FREEZE button.
 5. You now have a new Preset. Every time you go to that Preset number, you will now see your Preset, not the factory-set one. To change the Preset back to the factory setting, see **Reset Presets** (below).
 6. You can repeat this procedure from step 2 for as many Presets as you wish to change.
 7. Turn off **Alter Presets** by selecting it again, to make sure that your new Presets don't get accidentally changed.

Note: When you want to change an existing Preset, remember that you have to select the Preset number before going into the menus to make your changes. If you make your menu selections first, then select the Preset number, it will appear using the menu selections originally stored, not your changes.

MENU PAN:

Allows you to change the position of the menus to suit your monitor screen. If you find that you cannot see all of the menu, turn this selection on, reposition the menu on the screen using the stylus on the graphics pad, then turn Menu Pan off again by pressing the MENU button.

KEY COLOUR:

Determines what background colour is keyed out in Presets which utilise the video key. The choices are blue (Chroma key) or black (Luminance key). With blue selected, any areas on the screen which are close in colour to "chroma key blue" will be keyed out. With a Luminance key, the screen is divided according to areas of dark or light in the image. This selection is used for all relevant Presets.

Note: The Key Colour selection is not saved as part of the Preset data, so Resetting the system or recalling data will not change this selection back to its original setting.

RESET PRESETS:

This changes all the Presets back to their original settings, if you have been changing them using the **Alter Presets** function above. Select twice, once to highlight the selection, and once to activate it: it will beep to indicate the system reset is complete.

Resetting Presets on this Menu does not reset Sequences to their original format. This can be done in the SEQUENCE LIBRARY menu.

See Note above about key settings.

SEQUENCE LIBRARY MENU



This menu lists the sequences currently stored in the ENTERTAINER by name and number. Up to ten distinct sequences can be recorded and maintained. When you first look at this menu, the sequences stored will be the ones described in Presets 00-09.

Sequences may be named in this menu so that you can easily remember which sequence is stored in each number.

Note: The sequence numbers selected on the SEQUENCE LIBRARY menu do not change the current sequence number found in the SEQUENCE RECORD/PLAY menu.

NAME:

To name a sequence, select the appropriate sequence number followed by **Name**. The current title in the TITLE EDIT menu will become the sequence name. Obviously, to name the sequence you must prepare the name in the TITLE EDIT menu before you attempt to use the Name function.

COPY:

Sequences can be copied, so that you can easily make small alterations in a particularly useful sequence or you can try some adventurous modification to an existing sequence without losing your working version. To copy a sequence, select the sequence number you wish to copy and **Copy**. Then, select the sequence number to be copied into, and **To**. The sequence will be replaced with a copy of the first sequence and its name will be replaced with the copied sequence's name preceded by ►.

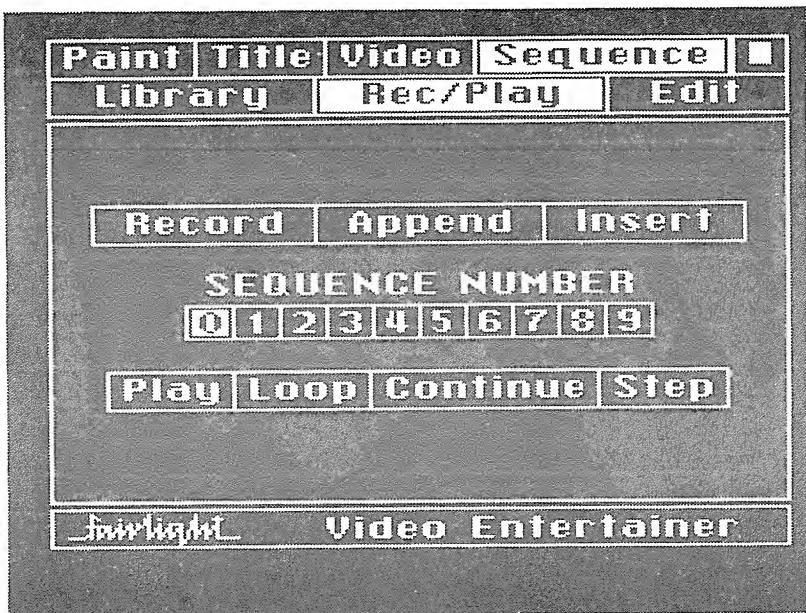
Note: If there is not enough room in Sequence memory to **Copy** or **Reset** the Sequence, the machine beeps and the function does not occur.

If there is room for the Sequence but not enough for the new name in the Sequence Title Library, the Sequence is copied but the corresponding Sequence name entry is cleared and left blank.

RESET:

To reset a sequence to its original format, select the sequence number followed by **Reset**. See Note above.

SEQUENCE REC/PLAY MENU



The sequence number selected for recording or playing is highlighted on this menu. You can select a different number by moving the cursor to the appropriate box under SEQUENCE NUMBER.

The top three menu choices, **Record**, **Append** and **Insert**, are used when you are recording a sequence of actions into the Sequencer memory and must be selected twice in a row to take effect. The next four boxes, **Play**, **Loop**, **Continue** and **Step**, are used when playing back the recorded sequence. The MENU button stops all Sequencer functions and return you to the SEQUENCE RECORD/PLAY menu.

RECORD:

All ENTERTAINER events (such as drawing on the Graphics Pad, slider movements, button presses, preset changes, etc) are recorded into a **Sequence** simply by performing the actions at the Control Panel with Record selected. Record overwrites any existing sequence in the memory. If you will need the existing sequence at a later date it can be stored onto video tape using SAVE & RECALL, or copied to another sequence number in the SEQUENCE LIBRARY menu.

The first event to be recorded in any sequence is always the current Preset. If this is not wanted, the first step can be removed using the Edit function.

Note: It is essential that you include at the beginning of the Sequence any necessary actions for preparation of the machine such as WIPE STENCIL or WIPE COLOR. Otherwise you may get unpredictable results when you play the sequence back. For example, if you play a sequence just after you have recorded it, paint actions will be performed at exactly the positions where they were recorded and hence will not be visible if the screen has not been cleared.

For example, to record a sequence which changes from Preset 40 to Preset 89, then paints a few lines and stretches them, you would need to perform the following steps.

1. Select Preset 40. This will be the first step of the new sequence.
2. Move the cursor to the Record box and lift the stylus. Repeat to activate Record. The display will return to the

-
- colour image. Recording has begun.
3. Move the Colour sliders to change the colourise effect.
 4. After the required time has been spent in Preset 40, change to Preset 89.
 5. Preset 89 allows Dots to be drawn over live video, so draw the dots where you want them, using the Colour sliders again to choose your drawing colour. Don't worry too much about mistakes - they can be corrected in the Edit mode.
 6. Move the STRETCH slider as required.
 7. Press the MENU button. This returns you to the SEQUENCER REC/PLAY Menu and stops the Record function.

The ENTERTAINER has now stored into its memory the sequence of actions and the times at which each Control Panel change was made. Go to the SEQUENCE EDIT menu to see how the information has been recorded.

You can replay the sequence as it was recorded using the Play function, or modify the recorded actions and times using the Edit capability.

Note: It is not possible to enter the Menus and record menu selections while recording a sequence, so any effects and paint methods that you want to use have to be in existing Presets. To record original effects, you will therefore have to create and save your Presets before recording the Sequence.

APPEND:

Similar to Record except that the actions subsequently recorded are placed at the end of the sequence. This allows you to add on to the end of an existing sequence.

Append does not automatically record the current Preset number when it begins.

INSERT:

Similar to Record except that the recorded actions are placed into the existing sequence before the event currently highlighted in the Sequence Edit menu. All subsequent program steps in the existing sequence (including the current step) are 'moved down' to allow room for the inserted steps.

To set the current program step, go to the SEQUENCE EDIT menu. Find the event before which you wish to insert more sequence data, and select it. Return to SEQUENCE RECORD/PLAY and hit the Insert button twice. Recording then continues at the selected step.

PLAY:

Plays back a previously recorded sequence. The actions in the sequence are played with exactly the same timing and positioning with which they were recorded. These times and positions may be altered using the Sequence Edit menu.

During Playback, the lights in the Control Panel sliders ripple. Play may be halted by pressing the STOP or MENU buttons. If you go to the menus, the SEQUENCE EDIT menu always displays the next step in the sequence.

The user is able to paint and manipulate the controls during Play. Unusual effects can occur, however, when the Sequencer also tries to do something. The Sequence will

always override the user.

You will notice that the cursor shapes such as **Title** or **rays** → do not appear on the screen when you replay a sequence.

LOOP:

The Loop function operates exactly as Play except that when the end of the sequence is reached, the Sequencer returns immediately to the beginning. The endless loop can be stopped with the STOP or MENU buttons.

CONTINUE:

If a sequence is stopped with the STOP or MENU buttons while it is playing or single-stepping, it can be re-started from the next event using Continue. Alternatively, select the line number where you wish to start playing in the SEQUENCE EDIT menu, then select Continue.

STEP:

Plays back the Sequence step by step. The Sequencer will perform one step from the current point in the program each time that the DRAW LOCK button is pressed. If you stop the Play function during a sequence, the Step function is useful to locate the exact point in the sequence to place an Insert or an Edit.

SEQUENCE EDIT MENU

Line Number		Event Name		Preset	Event Time
					H M S F
0000		Preset	00		00 00 00 01
0001		Wipe colour			00 00 00 10
0002		Preset	02		00 00 02 00
0003		Rate 2	025		00 00 02 09
0004		Zoom	230		00 00 02 10
0005		Hue	255		00 00 02 11
0006		Stop			00 00 02 12
0007		Dot	092 131		

This menu is where you edit **Sequences**, either your own or the factory-set ones. In the centre of the page is the **Event List**, to the left are the **Line Numbers**, to the right the **Event Times**, and at the bottom are three **Edit Option** boxes.

In the central list of events, the event is named and other information is added in numbers. Preset and Title numbers are obvious, but slider moves are also recorded as numbers between 000 (bottom) and 255 (top). For slider moves, only the high and low points of the movement are recorded in the sequence edit list.

If your sequence has more than eight lines (and most of them do), the **▲** and **▼** boxes on the left hand side of the menu let you move up or down to see more of the sequence.

To move to the start of the sequence, select **Block** then **▲**; for the end of the sequence, use **Block** **▼**.

FIND:

For large movements around the sequence, the **Find** selection enables you to select a specific line in the sequence.

1. Move the cursor to any line number box. It will light up.
2. Type in the required number using the Control Panel buttons, or use DRAW/DRAW LOCK buttons on the control panel to decrement/increment the number by one.
3. Move the cursor to the Find box. The display will change to show the selected line number at the selected position.

Find may also be used in conjunction with **Block** to find the end of a long run of one particular instruction type. For example, if a large number of consecutive Dot instructions have been recorded it is possible to locate the last of them in the following manner:

1. Highlight the line number box of one of the Dot instructions
2. Select **Block**
3. Select **Find**. The last in the run of Dot commands appears at the centre of the display.

DELETE:

If you find that you have recorded some program lines that you did not intend, they can be deleted. To do this:

1. Locate the line in the Sequencer Edit menu, and move the cursor to light up the line number.

-
2. Select **Delete**. The selected line will be removed and the following lines will be renumbered.

Delete can also be used in conjunction with the **Block** box to delete any number of lines in the Sequence:

1. Select a line number box.
2. Select **Block**. It lights up.
3. Search for the other end of the block to be deleted by using **Find** or **▲** or **▼**, and light up the line number. You can also key in a line number into this box, e.g. 0000 for sequence beginning or 9999 for sequence end. **Block** remains lit up.
4. Select **Delete**. The selected block of lines is deleted.

To delete a block of consecutive identical instructions:

1. Highlight the number of the first line to be deleted.
2. Select **Block**.
3. Search for the last line of the block by using **Find**.
4. Select **Block** again.
5. Select **Delete**. All lines in the block, including the highlighted beginning and end lines, will be deleted.

Note: When the TITLE button is pressed during Record modes, the recorded entry reads "Title no." followed by a two figure number, initially zero. The following "Title" entry specifies the the title position. The two-figure number may be modified during editing to select any title from the Title Library. "00" will select the current title, while any other number will access the corresponding Title from the library.

INSERTING OR ADDING LINES

If you need to add some more instructions in the middle of your recorded sequence, you can use the **Insert** function on the SEQUENCE RECORD/PLAY MENU. To do this:

1. Find the point in the sequence where the extra instructions are to be inserted. This can be done by the methods described under **Find** above or by playing the sequence to the desired point.
2. Select the line number before which you wish to insert by moving the cursor to light up the appropriate line number box.
3. Return to the SEQUENCE RECORD/PLAY menu and select **Insert** twice.
4. Record the required additions by performing those actions with the Control Panel.
5. When all the additions have been recorded, press the MENU button to terminate the insert.

To add to the end of your sequence, use **Append**.

After **Record**, the edit display begins at line 0000.

After **Insert**, the edit display begins at the first of the inserted lines.

After **Append**, the display begins at the first of the appended lines.

COLOUR CRAWL: A painting effect which produces a rippling colour effect in the direction of drawing. Colour crawl is inherent in some presets and cannot be menu-selected.

COLOURIZATION: An effect which can be applied to live video or painted images, where colours on the screen are transformed into other colours. Various types of colourize are possible, see Video Effects menu for descriptions.

COMPOSITE VIDEO: A single electrical signal which conveys all necessary information contained in a colour picture. Permits connections between pieces of equipment using a single coaxial cable.

CURSOR: A moving dot or other shape on the screen which indicates the position of the stylus on the graphics pad. Used for positioning drawing or for indicating active choices in menus.

KEY: See explanation on p. 6.

PIXEL: Computer-generated pictures or effects are made up of a large number of tiny squares of colour called "picture elements" or pixels for short. The smallest brush shape for painting is a single pixel.

RGB: Picture information transmitted as separate red green and blue separations. A fourth signal for synchronising is also required. RGB connections therefore require four coaxial cables; however resulting quality is better than composite video.

STENCIL: See explanation on p. 6.

STYLUS: The pen provided with the ENTERTAINER for drawing on the graphics pad.

WIPE: A process which affects the whole screen, producing either colour or a stencil across the entire screen area.

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